Virginia Wildlife

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Virginia Wildlife

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COVER: This lunker largemouth bass seems to have been driven out of his mind by the sight of a white-tailed dragon fly so near the surface of his pond. Let's hope his exertions were rewarded by the capture of such a delicious morsel. Our cover artist: Duane Raver of Cary, N. C.

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GUEST EDITORIAL

Why Does A Pheasant Cross The Road ?

WHY does a pheasant cross the road? Unlike the proverbial chicken, a pheasant doesn't risk life and limb to get to the other side. Rather, this easily recognized game bird—recently established in Virginia—is just doing what comes naturally.

Unfortunately, pheasants have never quite adjusted to mechanical living. Their instincts and reflexes work admirably well during hunting seasons, but during the rest of the year they apparently don't recognize or react quickly enough to the dangers of high-speed driving. In states where pheasants are abundant, thousands of ringnecks lying dead along or on the macadam and cement each spring and summer bear mute testimony to this gory fact. They can, and often do, fly high enough to pass over the traffic. But all too often they run, stop or fly low enough to wind up in a mess of broken bones and scattered feathers.

A hen ringneck and her brood walking slowly and calmly across a rural road may or may not make it. The factors that spell the difference between life or death involve the speed of an oncoming automobile, the alertness of the driver, and human judgment. The driver behind the wheel should stop until the mother and every chick are safe and sound on one side of the road or the other. Unfortunately, it is not always possible to come to a complete standstill on well traveled highways without risking human life. Another car may be following too closely behind, there may not be time to stop without sending the car into a dangerous skid, or the birds may suddenly fly into the path of cars and trucks. In such instances, all you can do is to hope that the end came quickly and without suffering.

Too many times, however, human carelessness or indifference have doomed wildlife on the highways which should have lived for another day. Some sadists have been observed stepping on the gas or deliberately swerving their cars to kill pheasants and other game crossing highways. If the human being can claim any mentality or reasoning power above all the other forms of life on this planet, then there is no possible excuse for such action.

This year, and especially during this nesting and brooding season, keep your eyes on the road ahead when you are driving anywhere in Virginia. And if you can possibly slow down or stop in order to give wild birds and animals a chance to safely cross your path, do so. The life you save may not be your own—but it will be a life that can add much to your enjoyment, sport and pleasure.

Adapted by permission from the June 1961 *Pennsylvania Game News*, published monthly by the Pennsylvania Game Commission.

LETTERS

Are Seiners Hurting Fishing?

WHILE working up and down the James River between Balcony Falls and Gladstone, I have made careful observations of the number of people seining minnows. When I asked these people if they were fishing, they informed me that they were seining minnows for resale not for their own use. It seems that below dams were their favorite spot for getting these minnows in the James River. Realizing that the state requires a license for this, they are perfectly within their rights. Now it is not my intention to argue the merits as to whether they should or should not seine minnows but to criticize where they are seining. As I watched one man haul in his net, I noticed that he had several small bass and bream in his collection of minnows. When asked about this, he laughed and said they were all minnows.

It has been my observation that wherever the seining was going on, the fishing was very poor after that. One example of this is the James River at Holcomb Rock. I personally saw a man come there with a pickup truck and fill up three water barrels with minnows seined out of the James River. Ask the local residents how this affects the fishing there.

Scottsmill Dam in Lynchburg is another example. It seems that the practice there is to lower the net over the dam and haul in everything that gets in it. Fishing there is not the same as it was a few years ago.

Why so much on seining in the James River for minnows? It looks to me that this would be taking food away from those that depended on it for life and production. Surely one can see that in a river such as the James they need all the food they can get.

I also realize that perhaps this is the only place these minnow marketers can get minnows as they have cleaned out just about every creek in the surrounding counties.

While I am described by some as a dyed-in-the-wool artificial bait angler, I do not intend to criticize these minnow fishermen for using them; I do criticize the method by which these minnows are secured and the whereabouts they are seined.

It is my opinion that the state should pass some legislation about seining minnows in the James River, for this is definitely affecting the bass population in the James River and others. What about this, WILDLIFE readers? Anyone agree with me?

Calvin Crance
Lynchburg, Virginia

"Keep Hunters Out Of Parks"

WHEN I read your editorial in the March issue of VIRGINIA WILDLIFE, I looked back to earlier issues to see if the magazine had acquired a new editor.

Your assumption that enjoyment of the out-of-doors is confined to fishermen, hunters, and short-term picnickers would seem to belittle nature lovers, nature-study leaders, teachers, and students. Great numbers of us, who never hunt, buy duck stamps, subscribe

(Continued on page 26)

A Report On The Virginia Boating Safety Act

By FLORENCE B. WADE
Boat Registration Supervisor

WITH two years' experience in the administration of the Virginia Boating Safety Act, your State Game Commission employees have learned a good deal about boats, boat owners, water safety and the keeping of records. Some of it has been hard work, but mixed with that has been the pleasure of finding out what good sportsmen the average boat owners are. Regulations, in general, have been complied with and there have not been too many complaints.

The first boating season was one of instruction and public relations work—enforcement only where absolutely necessary. Last summer enforcement of the law was begun in earnest, and we were compelled to issue summons which resulted in 504 convictions for boating violations. This year the General Assembly changed some of the law—we think for the better, as these changes clarified the regulations and made them conform to Coast Guard regulations as closely as possible. The law was passed "to promote safety for persons and property in and connected with the use, operation and equipment of vessels, and to promote uniformity of laws relating thereto."

Commission Photo by Harrison

Changes made by the 1962 General Assembly make the state's Boating Safety Act conform with U. S. Coast Guard regulations, simplifying joint enforcement by game wardens and Coast Guard personnel.

Photo by Jim Lee

As of June 29, all vessels propelled by machinery—regardless of horsepower—will be required under state law to carry at least one life preserver, life belt or ring buoy (illustrated) for each person aboard.

Our two major concerns, then, are safety and uniformity. We wish to promote safety with the fewest restrictions possible and to do that we had to conform to Coast Guard regulations. The changes in the law were mostly for this purpose. The "Virginia Motorboat Owner's Guide," which gives complete information on the law, is now being reprinted and will be distributed before the changes in the law become effective June 29, 1962.

Here, for your information, is a brief on the law changes in the three major subjects which were affected:

Registration: Provision has been made for the prorating of registration fees. The 1960 act listed registration fees at $5 for each new registration, $1 for each transfer of a registered boat, and $.50 for each duplicate card issued. New fees will be prorated for the July 1963-June 1966 triennium at $5 for the first year, $4 for the second, and $3 for the third. Transfer fees will be the same as new registrations. The duplicate fee will still be $.50.

Other changes in the registration were made to speed the process and give better service to the boat owners. All numbers are issued from the Richmond office, with temporary receipts mailed daily. We expect very shortly to be able to mail permanent plastic registration cards to boat owners within 10 days after registration. Plans are all made for the renewal of boat numbers next spring and, with the help of the boat owners, this work (including issuance of renewal registration cards) should be completed by the expiration date—June 30, 1963.

In accordance with recent clarification of regulations, the following vessels are *exempt* from Virginia Boating Safety Act numbering requirements:

1. A motorboat which has been awarded a number pursuant to federal law or a federally approved numbering system of another state.

2. A motorboat from a country other than the United States temporarily using the waters of this state.

3. A motorboat which is used in a governmental function by the U. S., a state or subdivision thereto.

4. A ship's lifeboat.

5. A documented vessel.

6. A racing boat during an authorized race and during a 24-hour period before and after the race.

7. A motorboat having a total propulsion of less than 10 horsepower.

Equipment: The major change which affects your equipment requirements was made by changing the definition of the word *motorboat*. The 1960 law defined this as any vessel propelled by machinery of 10 or more horsepower. The 1962 act defines the word as *any vessel propelled by machinery*. This one change affected the following regulations:

1. All *motorboats* shall carry at least one life preserver or life belt or ring buoy for each person aboard.

2. Every motorboat shall be provided with such number, size and type of fire extinguishers, capable of promptly and effectually extinguishing burning gasoline. (This is modified by Commission regulation to conform to Coast Guard requirements which exempt open boats under 26 feet with outboard motors. Boats are not open if as much as a third of the length is decked over or they have a closed compartment.)

3. Rowboats when occupied and in use between sunset and sunrise shall have ready at hand a lantern or flashlight.

4. Lights for Class A and Class 1 boats are the same—32 point white light aft and combined lantern in the fore part lower than the white light aft.

5. Skiers must have an observer in addition to the operator, or the skier must wear a life belt.

Photo by Jim Lee

Water skiers must wear life belts if there is not an observer in the towing boat in addition to the operator.

Enforcement: The changes in this part of the act were to clarify the penalties for violation and to give the game warden authority to enforce the law. One other change was made regarding the application for permits to hold regattas or other such water activities. These applications must now be made 30 rather than 15 days prior to the regatta date.

We hope the changes are all for the better and will help considerably toward making boating the wonderful, happy and safe sport it should be. By working with and for the boat owner, the Game Commission hopes to promote a safe boating season in Virginia this year.

Virginia Boat Registrations Totals
July 1, 1960, Through January 1, 1962

Counties	
Accomack	2643
Albemarle	46
Alleghany	17
Amelia	14
Amherst	71
Appomattox	26
Arlington	540
Augusta	82
Bath	4
Bedford	74
Bland	4
Botetourt	22
Brunswick	33
Buchanan	69
Buckingham	16
Campbell	140
Caroline	53
Carroll	40
Charles City	113
Charlotte	30
Chesterfield	967
Clarke	23
Craig	4
Culpeper	40
Cumberland	9
Dickenson	24
Dinwiddie	96
Essex	515
Fairfax	1629
Fauquier	41
Floyd	15
Fluvanna	6
Franklin	149
Frederick	55
Giles	42
Gloucester	1280
Goochland	22
Grayson	34
Greene	5
Greensville	62
Halifax	94
Hanover	233
Henrico	1243
Henry	366
Highland	0
Isle of Wight	455
James City	397
King & Queen	139
King George	239
King William	166
Lancaster	1015
Lee	0
Loudoun	70
Louisa	57
Lunenburg	42
Madison	11
Mathews	1080
Mecklenburg	441
Middlesex	1589
Montgomery	136
Nansemond	468
Nelson	11
New Kent	183
Norfolk	1601
Northampton	1008
Northumberland	1236
Nottoway	74
Orange	21
Patrick	36
Pittsylvania	145
Powhatan	27
Prince Edward	23
Prince George	288
Prince William	864
Princess Anne	2086
Pulaski	861
Rappahannock	3
Richmond	495
Roanoke	393
Rockbridge	61
Rockingham	100
Russell	36
Scott	8
Shenandoah	47
Smyth	79
Southampton	42
Spotsylvania	86
Stafford	333
Surry	220
Sussex	35
Tazewell	108
Warren	47
Washington	256
Westmoreland	1413
Wise	54
Wythe	35
York	1237
Total for Counties	30,848

Cities	
Alexandria	675
Bristol	35
Buena Vista	22
Charlottesville	84
Clifton Forge	4
Colonial Heights	76
Covington	4
Danville	184
Falls Church	110
Franklin	80
Fredericksburg	144
Galax	22
Hampton	2312
Harrisonburg	28
Hopewell	319
Lynchburg	211
Martinsville	91
Newport News	2083
Norfolk	3132
Norton	0
Petersburg	272
Portsmouth	1174
Radford	56
Richmond	1254
Roanoke	367
South Boston	30
South Norfolk	227
Staunton	35
Suffolk	159
Virginia Beach	182
Waynesboro	61
Williamsburg	31
Winchester	32
Out of State	45
Total for Cities	13,541
Grand Total	44,389

Division of Parks Photo

Last year 56,000 visitors strolled along the nature trails at Seashore Natural Area north of Virginia Beach.

Vast areas of unspoiled beauty - -

Virginia's Popular State Park System

By BEN H. BOLEN, *Commissioner*
Division of Parks
Department of Conservation and Economic Development

IN THE short space of 50 years, we have changed from a work-oriented to a recreation-oriented society, from rural people acqnainted with nature and conscious of the fact that we are dependent on the land for our very existence, to a race of increased city and urbanized people who live in asphalt and concrete jungles, depending on an ever increasing number of fantastic gadgets that help us to lead a soft life. Yet some faint inner sense calls us back to a closer contact with natnre's wonders. Our forefathers first tried to conquer the wilderness that was America. Later they learned to cooperate with and understand it. That spark still burns in the heart of Virginians. Witness the thousands who flock to the seashore, mountains, lakes, fields and streams each year, seeking to reach back and touch the land that gave them life. We may not realize it, but our subconsciousness tells us that a man who loses touch with the land is not a whole man.

Shorter working hours, higher incomes, modern conveniences, better highways and improved transportation have given people increased leisure time that can be a blessing if properly used, disastrous if improperly used. This leisure time can give us spiritual enrichment, physical fitness, mental stability and improve our culture if we take advantage of the many recreational opportnnities our state offers. Many people are headed in this direction. Last year 56,000 visitors strolled along the two miles of self-guided natnre trails at Seashore Natural Area, studying trail booklets that explained to them some of the mysteries of life itself. The main question asked by those who signed the visitors' register was: "Why don't we have more of these?" Thousands of others gathered around campfires in state and national parks and eagerly listened as ranger interpreters told them about the fundamentals of life on earth which better enabled them to appreciate the wonders of out of doors. To satisfy this need, a park naturalist has been added to the staff of our Division of Parks. A natnre center is being established at Hungry Mother State Park and self-guided nature trails are being constructed at Hungry Mother, Fairy Stone, Douthat and Westmoreland State Parks. As time and funds permit, additional trails are planned for the other parks and recreational areas. Swimming and picnicking are still high on the list of preferred recreational activities, but the study of scenic, scientific and cnltural spots in our state will show that these are rapidly gaining in popularity with the vacationing public.

More and more people are crowding into state park camping areas in an effort to escape from crowded neighborhoods, occupational worries and the wear and tear of everyday life. They desire to get back into the forests where they can teach their children about the quiet beauty of nature, where a man can plant his feet on undisturbed earth, gaze upon sparkling streams, lakes and unspoiled wilderness and breathe clean fresh air. To meet the need for more camping space, the Division of Parks has built new camping areas at Claytor Lake, Hungry Mother, Douthat and Fairy Stone State Parks. Temporary camping accommodations have been constructed at Pocahontas State Park, and Goodwyn, Holliday and Bear Creek Recreational Areas. The campsites at Goodwyn, Holliday and Bear Creek will be opened to hunters this fall and winter. New campsites are planned for Staunton River and Westmoreland State Parks by the 1963 season.

Contrary to popular opinion, Virginia's state parks are not just swimming holes with an overcrowded picnic area adjoining. They are vast areas of unspoiled natural beauty, developed, protected and preserved for the enjoyment of this and future generations. Well marked hiking trails lead visitors into the remote areas of a park where they will come face to face with natnre at her best.

Parks and recreational areas serve most important recreational needs, but they are not the entire answer. Each of these areas has been changed or adapted in one way or another to fit the desires of man. None are exactly as nature created them. For this reason, there has been established within the Division of Parks, a "Natural Areas System," which maintains and preserves a limited nnmber of areas over the state in their natural, undisturbed condition, with only a bare minimum of trails. These areas serve a nnmber of useful purposes: they are a source of beauty and inspiration, living museums that stand as examples of the varied kinds of countryside present before man's invasion with ax and plow. As outdoor biology laboratories they are priceless, serving elementary and high school teaching, as well as college ecology classes. Many forms of life, ranging from large

Commission Photo by Shomon

Swimming, high on the list of preferred recreational activities, is provided at several of the state parks including Hungry Mother (above) near Marion.

Commission Photo by Kesteloo

To meet the need for more camping space, the Division of Parks has built new camping areas at Claytor Lake, Hungry Mother, Douthat, and Fairy Stone State Parks.

Division of Parks Photo

Areas recently purchased for inclusion in a "Natural Areas System" include Wreck Island (above) and Parkers Marsh (below) on the Eastern Shore.

Commission Photo by Shomon

mammals down to microscopic bacteria, are hard pressed to live in man's modern world and face extinction unless allowed the protection of natural areas. Important to us is the fact that soils in natural areas contain many organisms not found in cultivated soils. Each year sees the organic world yielding up its wonders by the way of new drugs, such as antibiotics, hormones, tranquilizers and other useful materials derived from plants and animals. A large research laboratory in the southern United States, for example, is presently screening thousands of desert plants, looking for anticancer material. To sum it up, there is much about natural areas that is of great value to us, but there is much about them we still do not understand. The natural areas, now administered by the Virginia Division of Parks, are: Parkers Marsh and Wreck Island on the Eastern Shore, Seashore near Virginia Beach, Goshen Pass near Goshen, and Lick Creek near Marion, Virginia. Brochures on these areas may be obtained from the Division of Parks.

The basic philosophy of the Division of Parks is the preservation of areas of natural, scenic and historical significance, and to provide for the enjoyment of these by this and future generations. Thus we not only have the job of preservation, but we must also see that each area has adequate interpretation in order that it will provide the greatest interest and enjoyment to the public. Interpretation as used in state and national parks does not carry the usual implication of translation from one language to another or as the construction placed upon legal documents; instead it is stating something complex in simpler terms so it can be more easily understood. Since the earliest cultural activities of man, there have been interpreters. The greatest of all interpreters used these methods in the hills of Galilee nearly 2,000 years ago. Man is curious by nature and, by good interpretive methods, we can acquire a knowledge of what things are and why they tick, creating a friendship and a close communion with nature and history.

Interpretation in Virginia state parks, recreational and natural areas and historical memorials is in its infancy, but the program is rapidly developing and promises to be of great interest and benefit to Virginians, as well as properly displaying and explaining our great natural resources to the thousands of visitors who come to our state. It will place the state parks in their proper place in the tourist attraction field.

At the George Washington Grist Mill, you can stand beneath the tree where the father of our country tied his horse when he visited the mill on the last ride he took prior to his death. At Sayler's Creek Battlefield Park, you can stroll across the hills where Lee's half starved troops made a last gallant stand before the surrender at Appomattox. At the Southwest Virginia Museum, you can learn something about the hardy pioneers who settled this rugged country. In the parks and natural areas from the seashore to the mountains of southwest Virginia, the natural history of our state is vividly displayed before the visitor's eyes. In all these areas, Virginians can reach out and draw comfort and assurance from the great men and memorial events of the past. Only through proper interpretation can we understand and appreciate our wonderful heritage as Virginians. It is a great heritage, one to be proud of, and by renewing contact with it, we can be assured that even though these are troubled times, our great state has weathered many severe storms and it will continue, steadfast and secure.

The Virginia Sturgeon Fishery

Virginia Fisheries Laboratory Photo by Bailey

Young sturgeon appear to be a relict from more primitive times.

By WILLIAM H. MASSMANN
Associate Marine Scientist
Virginia Institute of Marine Science
Gloucester Point, Virginia

THE capture of a 200-pound sturgeon in the Rappahannock River in August 1958 was front-page news. This tremendous fish was lassoed. The 7½-foot monster became stranded in shallow water and was captured by slipping a noose over its tail. Warren Brown, who caught it, probably didn't realize at the time that this was one way in which Indians captured sturgeon before white men introduced more sophisticated fishing methods. The Indians, however, did not rely on fish trapped in shallow water. William Byrd, owner of Westover Plantation and founder of Richmond, wrote a picturesque account of the sturgeon fishery on the James River which was published in his *Natural History of Virginia* in 1730. He wrote of the sturgeon, "This is a beautiful, large and splendid fish about seven or eight feet long. When it is baked it has a taste like the best veal. When these fish spawn, which is in the month of May, they then swim towards the source of the rivers, where in one day several hundreds of them are to be seen. The Indians catch them with a net on a long stick, also at times with their hands with a line, in which there is a running knot, which they are able cleverly to fasten onto the sturgeon's tail. As soon as the fish notices that he is being held, he pulls and jerks terribly, and draws the one who is holding him swiftly into the water. But the latter does not let him go free. Rather (he) takes a dip so often and swims after him so long that the sturgeon becomes so tired that the man can draw him out of the water onto the land. (This) the Indians consider a masterpiece of fishing."

This certainly was a masterpiece of fishing, but sounds a bit like a "fish story," colonial style. Were it not for the fact that other early inhabitants of the Virginia colony reported substantially the same thing, there might be serious doubts concerning its veracity.

William Byrd considered the sturgeon to be a "splendid fish." Apparently many early colonists felt the same way. During the early years at Jamestown Island food was scarce. Although fishes were plentiful, they were hard to catch. The colonists were not supplied with nets, nor were they fishermen. Small wonder that this large, abundant, and easily caught fish was appreciated. Captain John Smith stated, "In somer no place affordeth more plentie of sturgeon. We had more sturgeon than could be devoured by dogge or man." Captain Christopher Newport, for whom Newport News was named, was also impressed for in 1607 he wrote, "The mayne river abounds in sturgeon, very large and excellent food." Not only was the flesh palatable, but as pointed out by Robert Gray, "Rowes make Cavearie (caviar) and sounds (swim bladders) make isinglass."

It was early recognized that sturgeon could be the basis for an industry, desperately needed in the new colony. In 1609 Captain Samuel Argoll, an experienced fisherman, was dispatched from England with instructions to fish for sturgeon. He was evidently successful for in 1610 two ships, Blessing and Hercules, left the James River for England with cargoes of sturgeon.

Unfortunately the fish did not keep. From improper pickling or poor handling, both cargoes were ruined before they arrived in England. Robert Gray was probably correct when he wrote, "Sturgeon did not keep as in Moscovy where the climate is colder." Although a thriving sturgeon industry was not established in the Virginia colony, settlers further north were more successful. Large quantities of cured sturgeon were shipped to England from the Massachusetts colony in the late 1600's.

Sturgeon remained plentiful for some time. In 1759 William Burnaby, an Englishman traveling in the new colony wrote, "Sturgeon and shad are in such prodigious numbers, that in the space of two miles only, some gentlemen in canoes caught over 600 of the former with hooks, which they let down to the bottom, and drew up at a venture when they perceived them rub against a fish." There was a period during the early 1800's when sturgeon were no longer

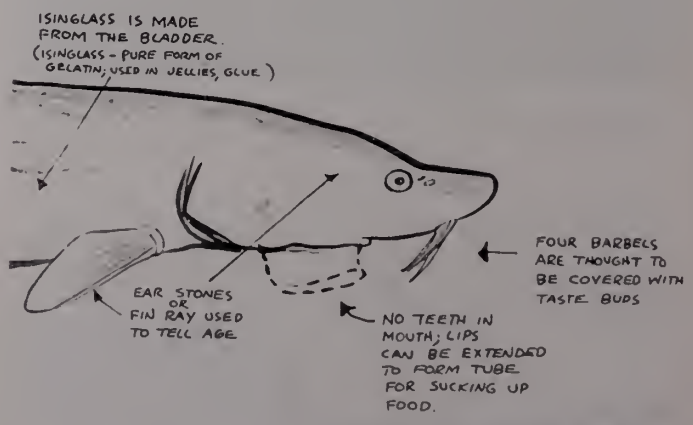


Illustration from *Michigan Conservation*

Some unique characteristics of the sturgeon. Females do not spawn until they are over 20 years old, then only at five- or six-year intervals.

wanted. Many captured incidentally with other fishes were left on the river banks to rot.

In 1880, however, sturgeon were again in demand. That year with pound nets, haul seines and gill nets 109,000 pounds were taken from the James, 51,000 pounds from the York, and 18,000 pounds from the Rappahannock River. In 1888 the only profitable sturgeon fishery along the Atlantic coast was in Delaware Bay.

The drastic decline in the sturgeon fishery prompted the newly formed U. S. Fish Commission to employ John A. Ryder to investigate the fishery. Ryder concluded, "The only means of maintaining and increasing this industry is through artificial propagation of this fish, which I have every reason to think may be successfully accomplished at a comparatively insignificant outlay." Although the hatchery was successfully operated, the results were not so successful. The fishery has continued to decline until, today, the capture

Delaware Conservationist Photo

Carl Morris and Bob Peck of Port Pen, Delaware, are among the few watermen who still fish for sturgeon.

of a single adult sturgeon is significant enough to be re-reported in our local newspapers.

In addition to the sturgeon lassoed in the Rappahannock, two additional specimens, weighing over 200 pounds each, were caught by more conventional methods from the James River, one in 1958 and the other in 1960. What has caused the almost complete extinction of this spectacular fish? What measures can be taken to increase its numbers? To answer these questions we must know more about the sturgeon itself.

A primitive fish, the sturgeon is encased in bony plates rather than true scales. Its nose is long and spade-like and the mouth is small and may be protruded for sucking up small fishes, crustaceans, and mollusks from the bottom where it feeds. Among the many kinds of sturgeons are the largest freshwater fishes in the world. Sturgeons are found in North America, Europe, and Asia. All are restricted to the northern hemisphere and most are found in fresh water. Two species are found on the Atlantic coast of North America. The short-nosed sturgeon, a diminutive fish seldom exceeding two feet in length, is rare. The Atlantic sturgeon is more common. It is found from the Gulf of St. Lawrence to the Gulf of Mexico and is so similar to its European counterpart that some believe they are the same species.

Although not as large as some of the sturgeons from Great Lakes waters, or from Russia where sturgeon weighing a ton have been caught, the Atlantic sturgeon may reach the respectable size of 12 feet and weight of 600 pounds. An 18 footer was once reported. Most adults range from six to eight feet in length and weigh from one to two hundred pounds.

The roe was of great value, especially during the 1920's when eating habits were sometimes extravagant. It then sold for as much as $3.50 per pound. The roe from a large "cow" sturgeon, containing about two-million eggs, would weigh up to 100 pounds; therefore, the capture of a big one was a happy event. Curing the roe is done by rubbing it on a screen to remove ovarian membranes, after which it is salted. Making caviar is now almost a lost art because so few sturgeon are caught.

Atlantic sturgeon spend most of their life at sea but, as William Byrd observed, they ascend the rivers to fresh water in spring for spawning. During these spawning runs the fish sometimes make spectacular leaps from the water. Robert Beverley, writing in 1705, said, "Sturgeons would also leap into their (Indian) canoes, in crossing the river as many still do every year, into the boats of the English." During later years a sturgeon leaped right through the open porthole of a sidewheel river steamer and caused some consternation and confusion among the passengers before it was subdued.

The eggs are deposited in freshwater spawning areas. Sturgeon grow slowly. The young or "sperlets" may reach a length of only five or six inches in their first year. By the time they are three feet long, they may be eight years old. Most young remain in the rivers until they are three to four feet long after which they migrate to sea where they remain until maturity.

When sturgeon were more abundant, sturgeon gill nets of strong twine with meshes as much as a foot wide were used in their capture. At present no special efforts to catch them are made in Virginia rivers. Sturgeon are so large and easily caught, however, that they are taken in almost any type of net used for other fishes including pound nets, haul seines, fyke nets and sometimes by trawlers fishing offshore. They have even been captured on hook and line. Imagine the surprise of a young lady-angler fishing from a beach on Cape Cod when she reeled in a six-foot sturgeon.

Although the adults are too powerful to be held by the fine-meshed gill nets used in taking shad and rockfish, the young are taken by these nets. In spite of a minimum size regulation of five feet, few young sturgeon are returned to the water, for young sturgeon steaks are a tasty dish.

We do not know all the reasons for the decline in numbers of sturgeon, but it seems obvious that such a large and slow-growing fish, taken by almost any gear being fished, has little chance of survival. Probably few ever reach maturity. Since sturgeon are no longer in great demand, there seems to be little hope for the future, although the return of all undersized fish to the water would certainly help. A victim of progress, this great fish, which thrived in primitive times and was so important to early Virginians, is now a relict of the past and we can only hope that its disappearance will not be complete.

Va. Chamber of Commerce Photo by Flournoy

Salt-water fishing is always interesting. This fishing family caught these nice flounder off a Virginia pier.

Salt Water Sport Fishing In Virginia

By C. E. RICHARDS
Assistant Biologist, Virginia Fisheries Laboratory
*Gloucester Point, Virginia**

SALT water sport fishing in Virginia is a growing business and a valuable recreational resource. The following information was compiled in order to inform potential fishermen about the various types of salt water fishing.

Salt water fishing is always interesting as long as there are fish to catch or a clean breath of a salty breeze. Besides the game fishes, many others may be caught or seen that provide a source of wonderment as to the variety of marine fishes and their ways.

*With assistance from Captain Wm. F. Burton, Wachapreague, Virginia, and Claude Rogers, Virginia Salt Water Sport Fishing Association, Virginia Beach, Virginia.

Commission Photos by Kesteloo

"Baiting the bottom" draws fish to the fishermen. Ground menhaden are lowered to the bottom in weighted onion sacks.

Bottom Fishing

Bottom fishing is done from yachts, small boats, hired party boats and piers. Hand lines or rods and reels are used with medium weight line and a sinker heavy enough to hold the baited hooks on the bottom. Lines are rigged with two hooks spaced about 12 to 18 inches apart with the lower hook attached close to the sinker. Numbers of fish caught by bottom fishermen can be increased by "baiting the bottom." This can be done by lowering ground menhaden or crushed crabs to the bottom in a weighted onion sack. Baiting the bottom tends to draw fish to the fishermen and his hooks.

Fish caught on bottom include croaker (hardhead), spot, gray sea trout (weakfish), summer flounder, whiting (sea mullet, kingfish, roundhead), pig fish, scup (porgy), and puffers (blow toads). Preferred baits and technique for catching the various bottom fishes differ only slightly.

Claude Rogers Photos

At left, a rigged eel, used for trolling for striped bass, cobia and white marlin. At right, a live eel hooked through lower lip, top bait for cobia.

FISH	*PREFERRED BAIT* (in order of preference)	*TECHNIQUE*
Croaker	Peeler crab, shrimp, bloodworms, clam	Anchored (bottom baiting) or drift slowly
Spot	Bloodworms, peeler crab, shrimp, clam	Anchored (bottom baiting)
Weakfish (gray sea trout)	Peeler crab, squid, shrimp, bloodworm, clam (squid preferred off the Eastern Shore)	Anchored or drifting
Summer flounder (fluke)	Live or frozen minnows with or without cut squid strips, cut fish bait, crab	Anchored or drifting
Whiting, scup, puffers, pig fish, sea bass	Generally caught with spot, croaker and trout as an incidental part of the day's catch	

Surface or Mid-Water Fishing

This type differs from bottom fishing in methods used and in kinds of fish caught. Several methods are used to catch fish at or near the surface and at mid-water depths. Artificial lures may be trolled or cast and retrieved. Live bait fish or cut pieces of fish may also be used. Surface or mid-water fishermen also employ methods to draw fish toward bait. Chumming is a standard practice in the Chesapeake. Chum is ground menhaden (bunkers), herring, or fish oil mixed with cornmeal dumped from the anchored boat to attract fish.

The kinds of fish caught with surface or mid-water lures and bait are bluefish, cobia (black bonito), rudder fish (one of the amberjacks), striped bass (rockfish), and spotted weakfish (salmon trout or speckled trout). The following chart describes particular methods for catching some of these fish.

Photo by R. S. Bailey

Casting for spotted sea trout in Lynnhaven Bay.

FISH	*BAIT*	*METHOD*
Cobia	Live bait (small croaker, spot, menhaden)	Cast live bait behind channel buoys as boat drifts by with the tide.
	Live bait (eels, spot, etc.)	Anchor, chum and fish live bait on bottom or unweighted, in chum line.
Cobia	Cut bait (menhaden or spot)	Fish cut bait on the bottom using a fish finder rig.
Bluefish Rudderfish	Cut bait and artificial lures	Anchor and chum; troll through or cast into schools.
Spade fish (Bay porgy)	Fresh clam pieces	Anchor near visible schools around lights and fixed obstructions, cast or drift line back to fish 3-8 feet below surface; 2/0-3/0 steel hook and 25 lb. minimum test line.

Claude Rogers Photos

At left, "school" stripers provide action for Virginia anglers throughout most of the winter in the Chesapeake Bay area. At right, "fall run" spotted sea trout from Ruddee Inlet south of Virginia Beach.

Striped bass (rock)	Artificial lures	Troll bucktails, rigged eels, and spoons around jetties, piers, and bridges; cast streamer flies, spoons or plugs to surface rises.
Striped bass	Peeler crab	Place ¼ crab on hook so that it is close to the surface near shore in shallow water by marshes (summer method).
Striped bass	Live silverside minnows, bloodworms, small menhaden	Fish adjacent to bridge abutments and pilings at night, using a strong light (the light attracts other minnows which attract "rock" and often trout), fish at various depths, from 3 feet down until the right level is found.
Spotted sea trout (salmon trout)	Artificial lures (clothespin type plugs and small bucktails)	Cast or troll in shallow bays and inlets (Lynnhaven Inlet area and creeks on the "Bay" side of Eastern Shore).
Shad	Small flashy artificial lures, spoons and spinners or wet fly with one or more beads ahead	Cast or troll below dams or other obstructions in brackish-fresh tidal water.

Claude Rogers Photo

Surf anglers using conventional surf-casting rigs wade across shallow slough of Fisherman Island to fish offshore slough at low tide.

Surf Casting

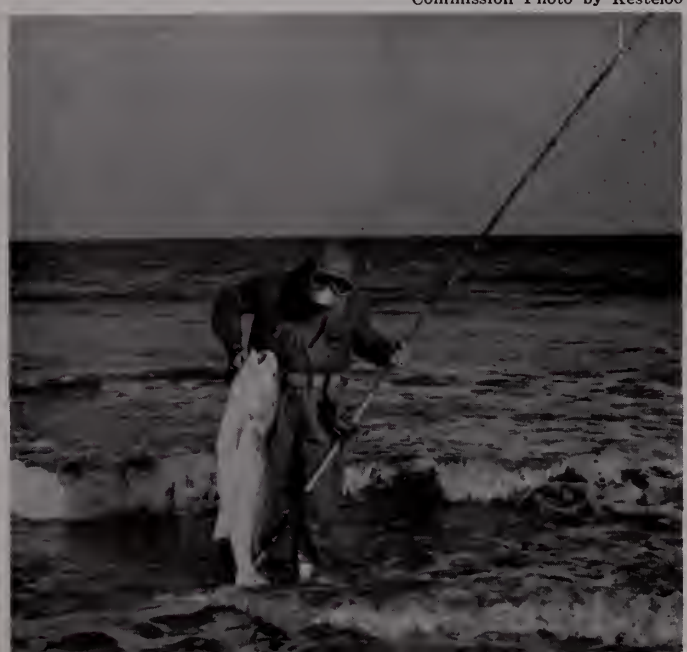
This sport is growing more popular in Virginia along Virginia Beach and the offshore islands on the Eastern Shore. Surf casting artificial lures and cut baits have met with success in these areas for flounder, bluefish, striped bass, channel bass, and the smaller fishes.

Eastern Shore and Reef Fishing

The Eastern Shore of Virginia and reefs off Virginia Beach provide some of the best fishing to be found anywhere. There are many good party and charter boats available. Ocean fishing (trolling) provides such game species as the larger bluefish, marlin, and dolphin. Little tuna, Mako shark, oceanic bonito, Atlantic bonito. dolphin, and other ocean game fish are frequently caught while fishing for large bluefish and marlin. Reef fishing offshore (essentially bottom fishing) will produce such fish as the scup (porgy) and large sea bass. Near shore. black drum and red drum (channel bass) are caught and the inlets and bays provide excellent bottom fishing. There have been many tarpon located in Gull Marsh channel, Magothy Bay, and South Bay. These tarpon have so far generally defied or ignored attempts to catch them. Many have been hooked but only eighteen caught beginning in 1955. Only one tarpon (35 lbs.) was caught within Chesapeake Bay off Grandview, August, 1955. Tarpon caught in the oceanside bays of the Eastern Shore have weighed up to 90 lbs. with larger fish reported seen.

Surf casters who make the effort to get to the barrier islands off Virginia's Eastern Shore are rewarded with catches such as this channel bass, or red drum.

Commission Photo by Kesteloo



FISH	*BAIT OR GEAR*	*METHOD*	*LOCATION*
Black drum	Clam, shedder crab	Anchored	In ocean near middle ground bars of inlets; within Chesapeake Bay, Kiptopeke-Cape Charles; James River off Newport News small boat harbor.
Channel bass	Cut bait (spot, menhaden), shedder crab Spoons and jigs	Anchored Trolling	Barrier Island beaches and Fisherman's Island to Cape Charles.
Bluefish, large	Artificial lures	Trolling	Fisherman's Island-Smith Inlet area and off Kiptopeke.
Bluefish, small	Artificial lures	Trolling	Offshore ocean waters.
White marlin	Whole squid, rigged eels, and cut skip baits	Trolling	In and near ocean inlets.
Bluefin tuna	Artificial lures, feather & nylon jigs	Trolling	Offshore ocean waters.
Tarpon	Live spot, croaker, etc. and whole squid with cork float on medium heavy rig	Anchored and float bait out	Shallow bay waters of oceanside Eastern Shore. Fish sloughs & channels at last half of ebb & shallow bars at high water.
Tarpon	Spoons and plugs, casting or spinning rod	Anchor and cast to rolling fish	As above, but be prepared, rig a buoy to your anchor to cast free, in order to follow hooked fish.

Claude Rogers Photos

At left, a 75-pound black drum taken in Cobbs Inlet out of Oyster, Virginia, on an "Eastern Shore Sandwich": clam and peeler crab lashed together on the hook with rubber bands. At right, white marlin and bull dolphin taken off Wachapreague.

There are many who say, "a fish has fins and a tail and can go where he pleases." This may be true but perhaps we can figure what his pleasures may be 95% of the time and be able to predict with favorable odds what fish may do. Of course, there is always the fisherman who proves predictions are wrong but his unusual catch only adds to our knowledge and the foregoing tables will be brought up to date as knowledge accrues.

Photos by Rogers, Kesteloo

At left, first-class tarpon bait: a live pig fish suspended from cork float and drifted 150-250 feet astern near bottom. At right, a clear-nosed skate, one of many strange creatures the salt-water fisherman catches.

SALT WATER FISHING SCHEDULE

Catch data have been collected from Virginia's marine sport fishermen during the past few years. These records indicate seasonal changes in catches and tell at which time the fishermen might expect better luck.

FISH	*PERIOD OF BEST FISHING*
Croaker	May-August
Spot	August-Mid-October
Common weakfish (gray sea trout)	Late April-June, and late August-October
Spotted sea trout (salmon trout)	Late September-November
Cobia	July-August
Black drum	Late April-Mid-June
Red drum (channel bass)	Late April-June and September-October
Bluefish	June and July
Striped bass (rock)	September-December
Marlin	July-September
Shad	March-early May
Bluefin tuna	June-July
Tarpon	July-August

Length-Weight Statistics For Marine Fishes

Length from tip of head to to center of tail, in inches	Rock		Black Drum		Cobia		Croaker Spring		Croaker Fall		Flounder		Gray Seatrout		Spot	
	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.	lbs.	ozs.
10	0	8	0	10				6		7	0	5		6		13
12	0	12	1	0				11		13	0	9		12	1	10
14	1	4	1	11	0	11	1	2	1	6	0	14	1	6		
16	2	0	2	5	1	2	1	12	2	3	1	4	2	4		
18	2	8	3	6	1	11	2	8	3	3	2	12	3	8		
20	3	12	4	10	2	7	3	8	4	8	3	4	5	3		
22	5	0	6	3	3	6					4	0				
24	6	4	8	1	4	10										
26	8	0	10	5	6	2										
28	10	0	12	14	7	14										
30	12	0	15	14	10	1										
32	14	8	19	5	12	10										
34	17	0	23	3	15	11										
36	19	4	27	10	19	0										

VIRGINIA WILDLIFE ☆ ☆ ☆ ☆

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

HUNTING REGULATIONS ANNOUNCED. The Virginia Game Commission took final action on the 1962-63 hunting regulations at their meeting in Richmond April 26. A six-day deer season, November 19-24, was adopted for western Amherst, western Nelson, Campbell, Bedford, Pittsylvania, Franklin, Patrick, Henry, and all counties west of the Blue Ridge with a bag limit of one deer, with doe shooting permitted on the first day. A season extending from November 19 through January 5 was set for all eastern counties except those in the Dismal Swamp area which are regulated by legislative act. The deer season in Isle of Wight and western Nansemond counties will be November 10 through January 5, and in Norfolk, Princess Anne and eastern Nansemond counties it will run from October 1 through November 30. Bag limits in eastern Virginia counties will be two per season, bucks only in Appomattox and Lunenburg counties, one per season, either sex in Loudoun, Fairfax, Fauquier, Prince William, Rappahannock, Culpeper, Madison, Greene and Orange counties and on Parramore Island (Accomack County) ; and two deer, one of which may be a doe, in all other eastern counties. Northampton, Buchanan, Montgomery, and part of Fairfax counties are scheduled to remain closed to deer hunting.

Rabbit, quail, squirrel, grouse and turkey season in counties west of the Blue Ridge will open on November 12, one week before deer and bear season, and east-of-the-Blue Ridge the season will open with the deer season on November 19. Rabbit and grouse season will close in all counties on January 31 with the exception of Accomack County where rabbit season will end January 15. Quail season in counties east of the Blue Ridge will remain open until February 15. Quail season in counties including Giles, Pulaski, Carroll and others to the west will close December 31 and the remaining counties west of the Blue Ridge will close their small game season on January 31.

Except for the November 12 opening for counties west of the Blue Ridge, turkey season will remain basically the same as last year, closing January 15. Eastern counties will open November 19 and close January 15. The bag limit will be one per day, two per season, either sex, except in Pittsylvania and New Kent counties where shooting will be limited to gobblers only. King William County was added to the list closed to turkey hunting and Greene, Madison, and Rappahannock counties will remain closed.

The general statewide bear season will open November 19 and close January 5. In Washington, Tazewell, Smyth, Bland, Wythe, Grayson, Giles, Pulaski and Montgomery counties, bear season will open November 5 through January 5. In Isle of Wight and western Nansemond the bear season will be November 10-January 5, and in Norfolk, Princess Anne and eastern Nansemond, bear hunting will be allowed from October 1-November 30.

Squirrel season dates will be about the same as last year, except that west of the Blue Ridge the season will open November 12 with other small game and those counties whose squirrel dates are set by legislative acts or have early squirrel seasons set by the Commission will open as they did last year.

A proposal was made at the request of the County Board of Supervisors to remove Alleghany County from the list of counties granted early squirrel seasons by the Commission. The opening date for eastern counties except those which had early seasons last year will be November 19. The general closing date set by the Commission is January 31, but several counties regulated by legislative acts will close as early as January 1.

The snow law was amended by the Commission to allow the hunting of all game animals and birds except quail in the snow. Previously all small game and game birds were protected when an unbroken blanket of snow covered the ground.

Stage 1—Overhang of the lure varies from 64 inches for 10½-foot rods to 70 inches for 11-foot rods. Weight on left foot.

Stage 2—The toss back—eye bait, shift weight to right foot; reel handle down.

Stage 3—Rock forward, sh

DISTANCE IN THE HIGH SURF

By CLAUDE ROGERS
Virginia Beach, Virginia

AFTER reading some of the present-day "space fillers," I am one of the vanishing Americans who believes the principal motivation for going fishing is the opportunity to catch fish—not just to keep from taking tranquilizers. I, too, enjoy all of the many other thrills of the fishing trip but consider them just the wonderful fringe benefits. The surf fisherman is a breed apart, who enjoys the luxury of solitude and the sport far beyond any prize, but what angler has not felt deeply the incomparable joy of a good day's catch?

Surf casting is one phase of fishing that is still a one-man game from seeking sloughs, rigging, casting, hooking, beaching to, *I hope*, releasing. And the surf caster who uses conventional revolving spool reels enjoys the additional satisfaction of watching the bait sail out beyond the breakers, propelled by a casting style he has perfected and controlled by an educated thumb. The measure of success in surf casting is often measured by the distance cast when fishing the shallow, sloping beaches of Virginia and North Carolina.

It is a sad fact that fishermen spend less time mastering their tackle and expect more from it than any other outdoor group. Can you cast 300 feet-plus with conventional tackle? With the proper tackle, a proven style and a little practice it can be done, and is being done every day.

Disregarding formulas and high-sounding theories, the surf caster who beaches fish consistently employs perfect tools, and the tools match his "style." Championship style does not happen by accident. Many theories, rods, reels, and techniques are tested and rejected before success is achieved. You can buy the most expensive surf rod available and it will only be as good as your ability to use it.

Casting Style

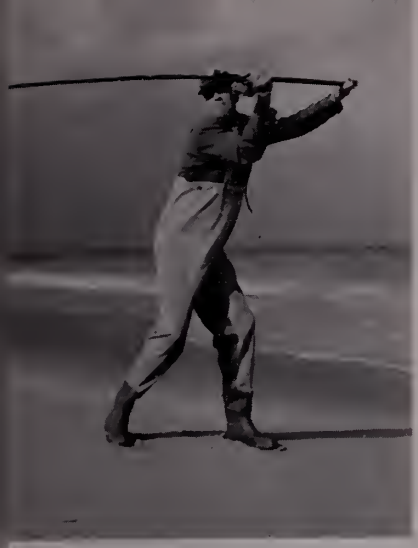
At the start of the cast the weight of the body is on the left foot, the right being used only to maintain a balanced position (Stage 1). From this position the caster pivots the body without moving the feet and, in one continuous rocking motion, shifts the weight of the body from the left to right foot as the rod is brought around, arms extending and thrusting the rod and lure up and back (Stage 2). To maintain balance, avoid going too far to the right from rear.

Practice keeping your eye on the lure throughout the back-cast. (See second stage.) This is a point of great importance to the distance caster. Even for night fishing, turning the head and body on the back-cast assists coordination. Check old surf-casting, and fishing, photos and you will see how few surf casters keep their eyes on the bait; they should for safety's sake, if nothing else.

From the Stage 2 position, with the lure fully extended in the air to the rear, body movements are reversed with the weight now being transferred from the right to the left foot. The forward rocking motion of the body assists the take-off and gets the lure underway (3rd stage). The launching ramp is further extended and the application of force is more prolonged, if the rod is brought over in a 45° plane and not on the vertical.

You will note at the extreme point of the back-cast, the reel is on the side with the spool axis perpendicular and the handles down (Stage 2). As the rod is moved forward to the point where maximum thrust is applied, the reel is rolled from the position on its side to where it is directly under the rod, permitting the thumb to thrust directly against the spool axis (Stages 3 and 4). Thus, the thumb is in the best position to assist the thrusting action of the right hand, where maximum thrust and control are needed. Here, I might add, is another difference between bait and surf—where the spool of a bait-casting reel remains perpendicular with the handles up, during the cast.

Learn to "lean into the cast" by shifting the weight from the right foot to the left foot much as a baseball player steps into the ball. However, the caster does not take a step but moves the body forward by straightening the right leg and bending the left with only a slight pivoting of the feet (3rd stage).



t to left foot for cast; reel now under rod.

Stage 4—Begin to apply power; pull back with left hand.

Stage 5—Full power applied; thrust with right arm, pull back with left. Note: Caster watches lure at every stage of cast.

Thumb Control

No thumb stall is needed if the line is running smoothly. The sensitiveness of a bare thumb is essential for maximum control and distance, as the thumbing can be limited to the barest minimum necessary to prevent over-run, yet causing no drag.

The caster's thumb, by and large, controls backlashes and its job is made much easier with a full spool of line laid evenly (see "Spools"). Full and shallow layers of line cause the spool to pulsate as the line runs out, and half-filled spools travel at such high speed that control is difficult. It takes a little practice to lay the line on, as if it were laid by a level-wind device (8th stage). But hand-laid line is preferable, and most practical, considering the hazards of sand and wind to existing surf level-wind devices.

Practice "spool release" by easing but never completely removing the thumb from the spool. Most casters "thumb" the left side of the spool with the outer edge of the thumb moving down the bell of the spool on the ever-diminishing line. Some anglers attach a trigger under the rod for the forefinger to provide more control of the cast.

By all means use the lightweight spools, either plastic or aluminum. The 150-yard plastic model (see spools, p. 16), which weighs just a shade over 1⅞ ounces empty and filled with 190 yards of 36-pound test tournament line weighs just a shade over 3½ ounces. Lightweight spools are easy to start and easy to stop. On the other hand, heavy spools require more energy to start and once started are very difficult to stop or to keep from over-running.

As for eliminating fatigue, or taking the work out of surf casting, some of the new 4-1 ratio reels and larger handles are a step in the right direction. Don't worry too much about the right reel oil or grease. Practically any over-the-counter product will do. Just concentrate on control with the thumb, not with oil. It is much more important that the spool axle be straight and the bearings smooth and free from vibration. A noisy, vibrating spool makes it exceedingly difficult to cast beyond 360 feet. Beyond 390, everything must be just right including humidity. You will find that the bearing on the handle side wears first, due to pressure from the large drive gear against the small pinion, when cranking in a heavy sinker.

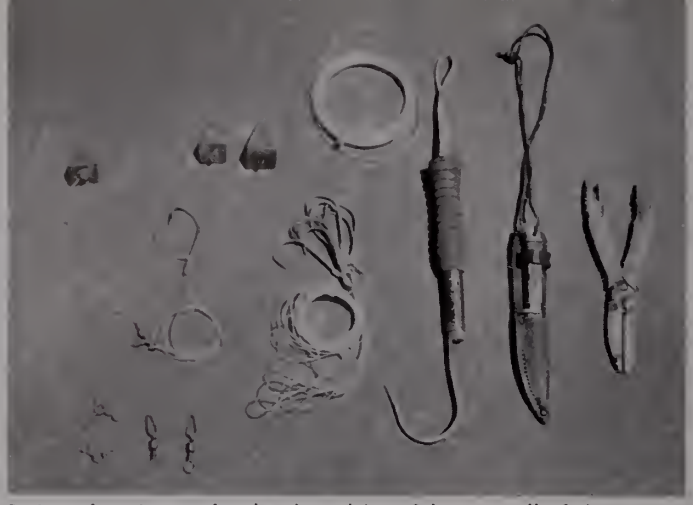
Rods

I have not said much about rods, as the style described here is flexible enough to be used with most homemade as well as over-the-counter surf rods. "Backbone" is important. In distance casting you cannot "get out of it what you put in it" if the rod is so limber it absorbs the power applied. A five-pound weight suspended from the tip of a good 10½- to 11-foot "distance rod" will cause a deflection of from 18 to 28 inches.

Stage 6—After lure is released (exact point of release can only be determined by practice), rod is positioned in line of flight of the lure.

Stage 7—Left thumb engages clutch as right stops spool. Stage 8—Angler grips rod with fingers, using heel of hand to steady reel, as left thumb lays the line on smoothly; necessary line tension supplied by the pull of lure or sinker.

We can all be thankful that some early pioneer distance-caster saw the necessity of having enough guides, positioned properly, to distribute the load of the cast evenly throughout



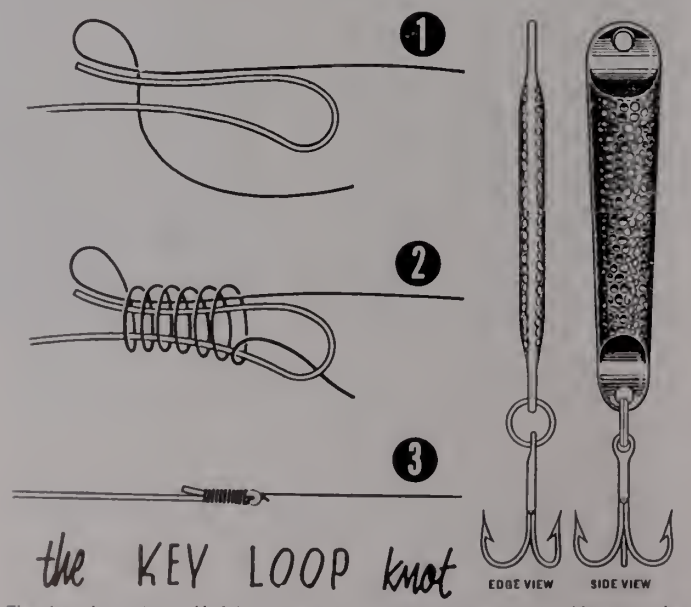
Basic surf equipment for the channel bass fishermen. All of these items, plus a few small fish for cut bait, are easily carried in a tackle bag.

Claude Rogers Photos

Plastic surf-fishing spool, left, is correctly filled with line. Center: Line on aluminum spool is lumped up and a poor cast will result. Right: Heavy brass spool is overfilled with line.

rods of the same weight or for a given amount of material. It is possible to increase the stiffness of a hollow rod, by the action curve of the rod. Experience has proved that it is impossible to control a 300-foot-plus cast that receives its propelling motion from the flex or bend of the rod.

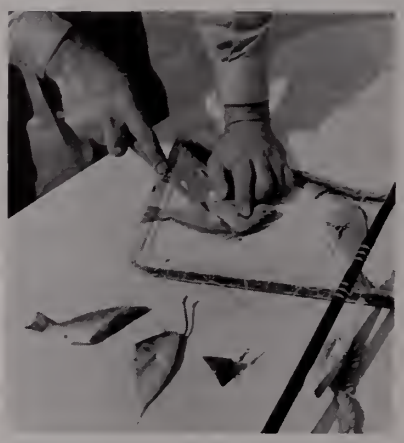
I feel I should tell you here that another over-worked theory—"letting the rod do the work"—does not apply in distance casting, whether it be fly, spin, bait or surf distance. Distance requires a relatively stiff rod and all the "controlled power" the caster can muster. On the other hand, for one-handed accuracy events, it is desirable, even necessary, that the flex or bend of the rod, supported with a minimum of wrist-action, supply the necessary propelling force. Hollow rods are stronger and stiffer than solid rods of the same weight. Increasing diameter and reducing wall thickness stiffens a hollow rod without adding weight. Thus I prefer the "hollow" Calcuttas over the "solid" and recommend them if you wish to experiment cheaply. They have



The key loop knot (left) is used for attaching heavy shockline to the main line. The metal jig shown at right is the most popular with surf casters in the Virginia-Carolina are for bluefish and other species

the longer segments and quicker taper. The taper is most important as it gives the rod a good or a poor action. For 3- to 6-ounce lures, I like a 10½- or 11-foot rod, with a butt diameter of approximately 1¼ inches tapering to tip diameter not greater than 28/64. The more closely the tip size approaches the butt size the more soupy or soft the rod's action becomes.

Weight is the limiting factor. Weight, anywhere, retards speed and reduces distance. To make a suitable distance surf rod much longer than 11 feet for use with a 4-ounce sinker, or lure, would require so much material the weight would be out of proportion to the average angler's ability to control it. Ten and one-half feet is a good length for the average angler. The reel is placed 22 to 28 inches from the butt. This is a short grip for surf rods by national standards, but still proven most effective with the outfit and casting style illustrated here.



Claude Rogers Photos

Cut spot is excellent bait for channel bass and very durable when rigged as shown at left. At right, a 50-pound channel bass from one of the Eastern Shore barrier island beaches. Bait—fresh cut spot.

Lines

One word about lines. Many times it is necessary to use at least a 36-pound test line to pull the sinker and bait from the sod-banks found along the surf of some of the Eastern Shore barrier islands. The line should be in good condition and free from frayed areas. The caster who uses one of the stiff outfits described here has very few backlashes, which should minimize one of the line-fraying problems.

Another thing to remember—very important but hardly ever considered by the average angler—is that maximum wear occurs to that portion of the line that is within the guides during the cast; not from rolling and tumbling in the surf. To overcome this wear, I use a 15-foot monofilament leader running the length of the rod, plus at least three turns around the spool to serve as a shock line (see Key Loop Knot). I have found it necessary to use at least a 50-pound test leader for starting four-ounce leads or lures; anything smaller will eventually pull in two, although I have never had this trouble with lures weighing less than 3½ ounces.

Conditions very often dictate the choice of gear and there are times when wind, height of surf, current, lure size and bottom conditions make light tackle impractical. Even the size of the quarry may dictate the type of tackle. The business of a surf rod is distance with big lures or baits for big fish under a wide variety of conditions.

The style illustrated here was developed by the author, who for many years was Virginia's bait and surf distance casting champion and, for two years, captain of the famous Tidewater Anglers Club surf casting team, winner of five successive victories in the Ocean City Cup Surf Tournament.

The Izaak Walton League of America's . . .

Ruby Anniversary

By DOROTHY E. ALLEN
Education Officer

Photos by Fredericksburg-Rappahannock Chapter, I. W. L. A.

ON January 14, 1922—40 years ago—54 sport fishermen met in Chicago to organize a social club. They named their club after the great English fisherman Izaak Walton (1593-1683). Waltonian charter members, like Izaak, were philosophers and lovers of nature.

Those farsighted conservationists were in unanimous agreement that their *Pisces* friends were in environmental danger. They were able to visualize nature's balanced elastic web and understood that when strain is applied to one strand the other strand becomes contorted, resulting in an unbalanced state. Their fishing streams were aquatic chameleons. They could not be tamed or confined and were constantly changing and absorbing the detritus—trash—of their environmental cradles. Good fishing would result only from good fish habitat. So enthusiastic were they over the perpetuation of their sport that they decided at their second meeting to form a national conservation organization—the Izaak Walton League of America—resolving that maintaining a firm resource base of soil and water would result in a "fine kettle of fish."

National, State, Local Activities

Today, there are three levels of activity in the I. W. L.—the national chapter, state divisions, and local chapters. The national arm of the League deserves special commendation for its efforts toward preventing water pollution. These Waltonians are militant in opposition to many high dams, which they feel are unjustified economically, and in promoting acquisition of wildlife refuges and inviolate wilderness areas. Through the *Izaak Walton Magazine* (formerly *Outdoor America*)—official publication of the I. W. L. A.—and the press, information on the League's program is conveyed to all America.

Extending from the national arm is the League's hand—its state divisions. These groups have sponsored and co-sponsored programs such as the Elkhorn Deer Bill, annual wildlife essay contests and conservation workshops for teachers (providing teachers with scholarships for courses in conservation of natural resources). Ranking among the leaders in this work is the Virginia Division, organized 20 years ago and now third largest state organization, boasting 24 chapters and membership of 6,000. For 15 years, the Virginia Division has co-sponsored an annual wildlife essay contest in the schools of the state in cooperation with the Virginia Game Commission. The contest brings the League, the Commission, and the State Department of Education into close contact, ties the sponsoring agencies to the schools, and gives teacher and pupil a "grass roots" project through which conservation becomes meaningful. The Virginia Division has made a sizeable contribution to this program over the 15-year period—$10,100 in money prizes and student scholarships.

In cooperation with Keep America Beautiful, Inc., state divisions have carried on an educational campaign against litterbugging. To preserve the heritage and right to hunt, a program has recently been adopted to create good relationships between the hunter and the landowner. Known as "Hunt America Time" (or Hunt Like A Gentleman), the program is designed to train hunters in true sportsmanship.

The Izaak Walton League of America was organized 40 years ago in Chicago. Today its largest chapter is in Lynchburg, Virginia.

Another I. W. L. state activity has been stocking of various streams with game fish.

The local chapters—fingers on the hand of the I. W. L. organization—assist in promoting all these programs. Waltonian members, from all walks of life, bring conservation problems to chapter meetings. Oftentimes, questions of a local nature are solved with the help of soil conservation groups or the fish and game commission. Community members of all ages benefit from the conservation education, wildlife and recreation programs of local chapters—such as gun safety and food patch planting programs conducted through the schools. Through Scout and 4-H groups, thousands of trees are planted by youngsters each year.

An outstanding phase of Virginia's local I. W. L. chapters has been their support of the natural resources conservation short course for teachers, sponsored by the Virginia Resource-Use Education Council and financed by civic organizations—public and private—as well as industry. The three-week courses were begun in 1956 and are now conducted each summer on the campuses of Virginia Polytechnic Institute in Blacksburg, the College of William and Mary in Williamsburg, and Virginia State College in Petersburg. Virginia I. W. L. chapters have contributed $4,940 in teacher scholarship assistance, in addition to the $2,400 total given by the Virginia Division.

Outstanding Virginia Chapter

The C. C. Clark memorial award for outstanding conservation achievement, established by the Suffolk-Nanse-

With special thanks to Sam L. Hayden, president of the Fredericksburg-Rappahannock Chapter, I.W.L.A., for much of the information contained in this article.

The Fredericksburg-Rappahannock Chapter (club house shown above) was the recipient of the C. C. Clark memorial award for outstanding conservation achievement among Virginia chapters in 1961.

A fishing rodeo for youngsters at the chapter pond is sponsored annually by the Fredericksburg-Rappahannock group.

The award-winning chapter also operated a booth at the county fair to have sportsmen sign the "Hunt America Time" pledge to respect private property. Below, Chapter President Sam Hayden thanks Supervising Game Warden Stuart Purks for the wardens' assistance.

mond Waltonians in 1959, was presented to the Fredericksburg-Rappahannock Chapter I. W. L. for distinguished service during 1961. The award was established for a two-fold purpose: to honor Mr. Clark—a charter member of the Suffolk-Nansemond Chapter, dedicated conservationist and all-around outdoorsman—and to create interest among local chapters in conservation activities.

Last year Fredericksburg-Rappahannock chapter activities included: preparation of two plaques—one dedicated to the chapter's past presidents, the other to the memory of deceased chapter members—to be hung on the wall of the club house; issuance of a monthly bulletin notifying members of the date of the next meeting and of chapter activities; sponsorship in area schools of hunter safety courses and a wildlife food planting contest for FFA and 4-H club boys, supervised and judged by wildlife technicians of the state; scholarship contribution for a teacher attending the natural resources short course; contact and work with farmers of the area in planting food patches for wildlife; participation in the anti-litterbug program; donation of subscriptions to *Virginia Wildlife* magazine to area landowners and schools; erection of numerous HAT (Hunt America Time) displays; recognition of outstanding contributions of chapter members through citations; and co-sponsorship of the annual Fredericksburg Dog Mart, a historical event dating back to 1698 and the signing of the first truce with Pamunkey Indians when the redskins obtained some of the colonists' hunting dogs.

F-R Chapter Member Honored

Benjamin T. Pitts, state senator and member of the Fredericksburg-Rappahannock chapter, received the national conservation award for his work in the field of conservation legislation. He also donated 225 acres of land to be used by the chapter in educating Boy Scouts and other youths in conservation of outdoor recreational facilities, enjoyment of wildlife, and a better first-hand knowledge of man's natural habitat. Transfer of title to this land to the League chapter will insure its perpetual maintenance in a natural state, one of the principal objectives of the League.

Why Join?

Persons interested in the conservation of our natural resources are invited—in fact, urged—to join the Izaak Walton League. New members are needed to help capture the imagination of today's youth, substituting for superficial ideals the wonder of nature's miracle of the out of doors, realization of the need for natural resources conservation, and the desire to become gentlemen sportsmen. A Waltonian will tell you to take a lad fishing. In the words of S. L. Hayden, president of the Fredericksburg-Rappahannock chapter: "We know of no better way to know a boy than to sleep beside him through the night under the stars and see the dawn creep in. This is nature. This is real; this is the character, the foundation and the principle of a dedicated Waltonian," or, as Izaak put it, "Good company and good discourse are the very sinews of virtue."

This year the 10 remaining charter members join with the present 60,000 fellow Waltonians to commemorate the League's 40th anniversary. With pride the members of the Izaak Walton League can justifiably boast of an organization whose program remains flexible so that it may be modified to conform to changing realities, but keeps as its objectives a more bountiful, more beautiful, and enjoyable outdoor America.

Fish Management: Habitat Improvement

By DOROTHY E. ALLEN
Education Officer

OUR objectives are:

1. To understand the hydrologic cycle.
2. To observe how water can carry soil.
3. To learn what improvements can be made on land to improve streams.
4. To find out about some of the structures used to improve the streams.

Watershed Use

Proper stream management is pretty much a matter of watershed use. Watershed protection improves habitat for stream fish by reducing silt—fine soil particles which are one of the most serious pollutants of our fishing waters. Silt covers spawning beds, damages the gills of fish, and covers rocks, plants, and gravel that support insect larvae and other fish foods.

Where there is heavy siltation because of poor farming, improper forest use, overgrazing, or faulty road building, and where there is excessive runoff, resulting in high waters at times and little or no flow at other times, the use of steam improvement structures is of little or no value.

When it reaches the ground, rain soaks into the soil if there is vegetation present to catch it; if not, it will run downhill to the nearest stream. (Study nature's hydrologic cycle, below.) If most of the water rushes downstream, it will eventually overflow the banks of the rising stream, causing a flood. Floods harm fish by destroying fish food and fish habitat.

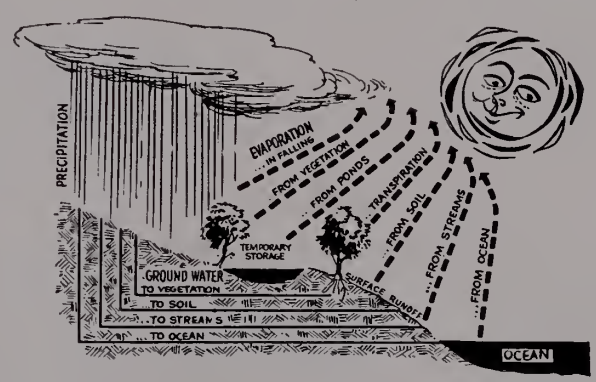
The amount of rain which soaks into the soil depends upon the cover on top of the earth. A forest is Mother Nature's sponge that soaks up water. Pines lose their needles little by little and the leaves from deciduous trees (trees that shed their leaves) fall and cover the ground each autumn. In time, these leaves decay and form a thick layer of humus, which provides a sponge-like floor for the forest.

Water doesn't burn. But a single match, misused, can cause a fire and, in time, destroy fishing. Forest fires burn the sponge as well as the trees. With the sponge gone, rain will run downhill; the stream will become flooded during heavy rains, dry up during periods of drought.

The forest affects water temperature by shading the stream. As we learned in an earlier study, each species of fish has its own temperature needs. (Trout want cold water; smallmouth bass, cool water; and largemouth bass, warm water.) If the temperature of the water is too high, fish will die.

Farming, A Management Factor

In the past farmers plowed straight furrows even on hillsides. During heavy rains water rushed down the hills through the furrows carrying with it rich topsoil needed for raising food. Much of this topsoil was washed into the streams. Soon some of them became too shallow to support fish life and some became muddy, making poor homes for the fish. Not only does the farmer lose rich soil needed for raising good crops, but everyone loses when topsoil washes into our streams and kills fish.



The Hydrologic Cycle

Game fish, which feed by sight, can't find their food in muddy water. Moreover, muddy water shades out light, interfering with the growth of microscopic plants on which water insects and fish depend for food. Silt deposits destroy the spawning grounds and eggs of game fish, and many fish actually choke to death during floods because their gills become clogged with silt.

Contour farming—one of the methods now used to prevent rapid runoff during heavy rains—brings a sharp reduction in soil loss as compared with straight-row farming; terracing does, too. Other conservation farming practices that greatly reduce soil loss include contour stripcropping and the right crop rotations. Gullies may be sloped in and seeded to grass or trees. So, we have to keep our topsoil on the land where it belongs. The fish don't want it; the farmers need it.

Did you know cows can kill fish? It's a matter of overgrazing. When too many livestock graze a pasture through which a stream flows, grasses are destroyed. Then, without grass to hold moisture, soften and keep the soil porous, rain water cannot soak into the ground. It rushes downhill, cre-

Attention, Teacher

Another tool in fisheries management is stream improvement. In this part of the study we find that the condition of any stream depends on surrounding land conditions which, in turn, affect fish habitat. Before we can determine what improvements can be made on a stream, we must first understand the *what's* and *how's*: What has caused a stream to need improvement and *how* the undesirable condition can be corrected or, at least, improved.

If possible, an outdoor study trip to a nearby stream would be most beneficial. In this way students can actually see for themselves the relationship of the surrounding land to the stream and why the fishing is good or bad at that particular site.

Conservationists can help fish populations by insisting on good timber management and erosion control, which result in less siltation of streams.

ating gullies on the overgrazed ground, and with each heavy rain the gullies deepen. Result—more silt flowing into the stream.

Often when too many cows and sheep graze a small area, where food is limited, the animals eat bushes along a stream edge. For the most part, these bushes should be left undisturbed to help shade the stream and keep the water cool. Too, bushes help hold the soil in place and prevent erosion.

Overgrazing will destroy your fishing, but where pasture land is properly grazed there can be good angling.

Pollutants

Pollution is a major destroyer of our favorite outdoor sport. Industries that discharge acids and chemical wastes into our water courses are fish killers, for many of these wastes are toxic to fish and the organisms they eat. So are some plant insecticides which wash into streams. Domestic sewage is another source of pollution. When sewage enters the water, bacteria begin the process of breaking down wastes. This work by bacteria uses up dissolved oxygen in the water and, as we learned earlier, fish must have oxygen or they suffocate. Most of the food organisms (crayfish, minnows, insects) of fish need oxygen, too.

In many places, poorly constructed roads are the source of mud and silt flow into our lakes and the cause of serious harm to fishing. Most main hard-surfaced roads are now built so that little silting can occur. Roadside shoulders and banks are planted with vegetation and grass to help hold the soil in place. You see, even the way we build our roads affects fish!

Since streams are not confined to a limited area, they are much harder to manage than lakes or ponds.

Stream Improvement Methods

Fish depend on stable stream environment. Good land use in the headwaters makes for stable streams. Stream improvement, therefore, is watershed improvement, plus use of "in the stream" structures that produce food and cover.

As a fisherman you can help to improve the stream you fish in. If the fish aren't biting, rest your rod for a minute against a tree. By spending just 10 minutes every time you go fishing to help enrich fish habitat, you can improve your catch. Following are some of the ways you can help.

Where stream-bank erosion occurs, plant willows. Streams sometimes make sharp right turns and water wears away the bank, carrying soil with it. A sustaining wall of stones piled on the bank will protect it from currents.

Under certain conditions it is possible to create better fishing habitat by use of stone or log deflectors or other devices to develop pools and establish better cover conditions for fish. However, these activities are expensive and, unless properly organized, are often short lived. More research in this area of habitat improvement is needed. Because each stream has its own individual characteristics, planning a stream-improvement project calls for considerable biological training and a thorough knowledge of stream ecology.

The best thing we can do to insure good fishing and provide good homes for fish is to encourage, at all times, proper methods of soil and forest conservation. The Soil Conservation Service, state and national Forest Service and other agencies will be glad to tell you about the habitat improvement work they are doing.

Suggested Activities

1. Purpose: To observe differences in erosion from water running off sod soil and bare soil.

Procedure: Take two or more wide boards (24 inches or more). Tilt on equal slopes fairly steep. Construct a sample soil layer on each, at least one being covered with a layer of sod. Pour equal amounts of water on each sample, preferably with sprinkling can or tin can with holes punched. From which sample is the most soil carried away?

2. After studying the hydrologic cycle, draw one of your own, explaining how it works.

3. Visit a community watershed to study its value to fishing.

4. Collect water in a quart jar from a river or stream when the water is muddy. Let it settle; observe sediment in the bottom. Find out where this sediment comes from. Where did this stream start? Follow the stream to its source. Streams rise either as springs, in swamps, or in a farm tile drainage system.

5. Visit a stream and see how it is affected by the land around it. Notice whether trees or shrubs shade the waters. Look to see if the steepness or flatness of the land makes the river run fast or slow. See if the stream is carrying soil, sticks, leaves, etc. Throw in a small stick above a bend and see toward which side of the bend the stick tends to float. What does the water do to the stream banks?

6. What are some of the places in the stream where organisms can live? Look for these: open water, rock ledges, cobblestones and boulders, gravel, mud, or sand, waterfalls, rapids, pools, calm places, dents in the shore.

7. What things live in your stream? Look at any plants that are growing. Try making a sampler. Set it in the water so the opening of the cheesecloth bag faces upstream. Pick up all the stones or gravel or sand or mud near the surface of the bottom and rub your hands over or through the material. Little larvae or insects that are present will be washed into the sack. Rinse sack into a white porcelain pan; count and identify what you find in just one square foot. Use the seine and your hands to catch bigger inhabitants.

8. How do streams differ from lakes and ponds? Think about or investigate these things: The amount of oxygen that can enter water mixed by tumbling over stones; degree of difference in temperature from top to bottom in shallow, circulating water; the scouring and digging action of the stream current; degree to which the organisms depend on the surrounding land for food, a place to lay their eggs, and a home during part of their later life.

9. Cooperate with adults in pulling up emergent aquatic plants that are too thick for proper fish management, along shore and in shallow areas of lakes or ponds.

10. Put in a brush pile attractor for fish. Tie piles of brush together with wire. Do not make them neat, but leave all branches, twigs, etc., intact. Sink the piles in the water at least 10 feet deep

Reprinted from *Conservation*, Camp Fire Girls Inc.
Build a brush pile shelter for fish.

and anchor with heavy stones or heavy scrap metal. Green sticks bent over the tops and anchored on either side will help secure piles. Small piles may be tied up on the shore and sunk in the same spot to provide a sizable shelter. Bottom piles of broken cement blocks, tiles or bricks could be substituted for brush piles.

Some Reference Materials

Allen, Durward L. "Managing Fish Habitats," in *Wildlife Management* (Boy Scouts of America, New Brunswick, 1952), 81-88.

U. S. Forest Service, Washington 25, D. C. Pamphlets on stream improvement.

These 16-mm motion pictures are available from the game commission: Brooks and Rainbows (sound, color, 26 minutes), The Forest (sound, color, 27 minutes), Life Along the Waterways (sound, color, 11 minutes), The Strands Grow (sound, color, 17 minutes), Yours is the Land (sound, color, 22 minutes).

NEXT MONTH: Study 5—Fishing Bait and Gear.

Bird of the Month:

The Snowy Egret

By DR. J. J. MURRAY
Lexington, Virginia

ALL the herons are attractive, but the loveliest of them all is the snowy egret. Its name indicates the purity of the white feathers in which it is clothed. The black bill, slenderer than those of the other herons, adds to the daintiness of the bird's appearance. The legs are black but the feet are yellow, from which comes its name of the heron with the golden slippers. This is the best field mark by which to distinguish it from the immature little blue heron, which is about the same size and which in the first year of its life is white but which has dark feet.

At the breeding time the 50 or more curved plumes, called "aigrettes," which grow from the shoulders of the snowy egret and reach to or beyond the end of the tail make a beautiful display. It is this beauty that has long been such an enticement to greed on the part of millinery manufacturers. Consequently this handsome bird, along with the larger American egret, was in danger at the turn of the century of complete extermination.

In the colony nesting places in the swamps of Florida, plume hunters congregated at the time when the old birds had young and when consequently their loyalty to the nest made them easy to kill. They were slaughtered by tens of thousands, the young being left to starve in the nests.

What a contrast: at one end, the fashion parades of lovely women on Fifth Avenue or Richmond's Broad Street; at the other, the bloody hunting grounds of the Everglades which provided that finery!

Under the leadership of Dr. T. Gilbert Pearson, who had been called from North Carolina to head the National Audubon Society, conservation forces set to work to fight this evil traffic. A long battle followed against powerful opposition and with many a setback for the forces of law and order. I have seen on the beach at Cape Sable in Florida the grave of Guy Bradley, the Audubon warden who was murdered by plume hunters when he tried to arrest them.

Finally by Dr. Pearson's courage and persistence, reinforced by the aroused consciences of the women of America, the victory was won. This achievement was made effective and permanent by a succession of government acts: the Tariff Act of 1913, which prohibited the importation of wild bird plumage into the United States; the Migratory Bird Treaty between our country and Canada in 1918; and the convention of 1936 with Mexico, which plugged the last loopholes.

Because of this protection the snowy egret has come back in numbers and has greatly extended its breeding range. Nesting colonies are now found on the East Coast from Florida to Virginia, Maryland, and southern New Jersey.

The snowy egret's nest is a simple affair, a platform of sticks set in bushes and low trees, generally over water. Here three to five eggs are laid, pale blue, like the eggs of all our herons. And here around the end of May, in the northern part of this territory, the young, ungainly parodies of their graceful parents, are hatched.

Edited by DOROTHY ALLEN

Margo Portraits Photo

(Front row, left to right) R. T. Dalton, judge; Eldon Brydge, 3rd prize; Larry Cash, 2nd prize; Robert McCray, 1st prize; E. C. Echols, judge; H. I. Todd, game warden. (Back row, l. to r.) Officers, Staunton-Augusta Chapter, I. W. L. A.: F. L. Summers, 2nd vice-president; J. P. Whitlock, secretary; S. C. Golladay, treasurer; Mrs. Lorraine Lambert, assistant secretary; H. S. Markham, president; John D. Eiland, 1st vice-president.

Augusta County Food Patch

Eighty F. F A. boys in five vocational-agriculture classes in the high schools of Augusta County participated in this year's quail food patch contest sponsored by the Staunton-Augusta Chapter of the Izaak Walton League of America. Each boy entering the contest received a subscription to VIRGINIA WILDLIFE.

Winners and their awards were: 1st prize—Robert McCray, son of Mr. and Mrs. W. F. McCray, Fort Defiance, Virginia—22 automatic rifle: 2nd prize—Larry Cash, grandson of Mr. and Mrs. B. A. Kesterson, Route 2, Staunton, Virginia—spinning rod and reel; 3rd prize—Eldon Brydge, son of Mrs. and Mrs. V. R. Brydge, Lyndhurst—sleeping bag.

Boating Makes Better Boys

The title was the remark of a youngster whose class was considering boating as part of a "Fun . . . Summer Health and Happiness" unit of lessons. It tied in with a previous study unit on boats, as a part of an over-all view of transportation in our times. The seven- and eight-year-olds were approaching summer vacation and had many exciting thoughts on the subject. They listed different kinds of boats and visited a boat-making factory, drew pictures and invariably showed children on the craft (often to the exclusion of anyone else). They liked to watch boat races, learned water safety rules by listening to television, and enjoyed a contest in which they named a boat. The boys decided to build a simulated pond on the sand table and have a mock race with their small toy boats. They began using terms like skiff, cruiser, sailboat, express, engine, etc.

A survey showed that the parents of many of the students were boat owners or were at least interested in boating as a part of vacation fun. The children decided to visit the home of one pupil whose parents were making some boat repairs. Photographs were taken of them with the boat, and added interest. The boys seemed most interested in what "made the boat go." The girls delighted in the modern furnishings and mentioned the stylish decor, vinyl seats, kitchen, etc.

A brief chalkboard summary made for reading and social studies revealed the children's impressions about boating. All declared they desired to "own one." Surprisingly, they were more enthusiastic about boating than about rockets!

—MARY ALLEN, Teacher

Mouse Counter

Richard B. Counter, 18-year-old naturalist and a senior at Fairfax High School, has been counting mice. His census indicates there were 139 field mice per acre on the grounds of Dulles International Airport last October. That's about 1.3 million mice. Two months later the count was down to eight mice an acre.

Richard said the mouse population explosion came after bulldozers cleared the land for the Chantilly, Virginia, airport still under construction near Washington. Long, thick grass grew on the airport's 10,000 acres and Richard said it was a "fairy habitat" for field mice—with farmers, dogs and cats gone from the neighborhood.

The youth isn't sure what caused the population crash, but an airport official suggested nature's balance took over again with the return of owls and other creatures that feed on mice.

Richard made his mouse count by setting 100 traps an acre in one spot for three nights in a row, then moving on to another site in a checkerboard pattern. He not only caught run-of-the-field mice, but also nabbed the first eastern harvest mouse seen in this area since 1902, the first prairie deermouse ever found in Virginia, and a white spotted jumping meadow mouse which now is in the National Museum.

Rural Virginia Photo

Ronnie Delf and friend.

To Be Falconer

Thirteen-year-old Ronnie Delf, of Culpeper, wants to be a falconer and is making his beginning with owls. He will fit a horned owl with jesses—leather thongs that are attached to each leg of the bird and to which a long leather leash is fastened.

Ronnie says he plans to teach his owl to watch the ground by dragging a dead pigeon in front of it.

"After I get him tamed enough, I will take him off the leash and let him go after a rabbit," said Ronnie. This may be the crucial test, for the owl may just keep on going. But, on the other hand, this also is the object of the sport of falconry: to train a bird of prey so it will pursue, kill and hold the prey until the falconer removes his bird, or calls it back to perch once more on his wrist.

Falconry is a 1,000-year-old sport. Apparently it was known in China some 2,000 years B. C.

Edited by HARRY GILLAM

Guides For Rockhounds

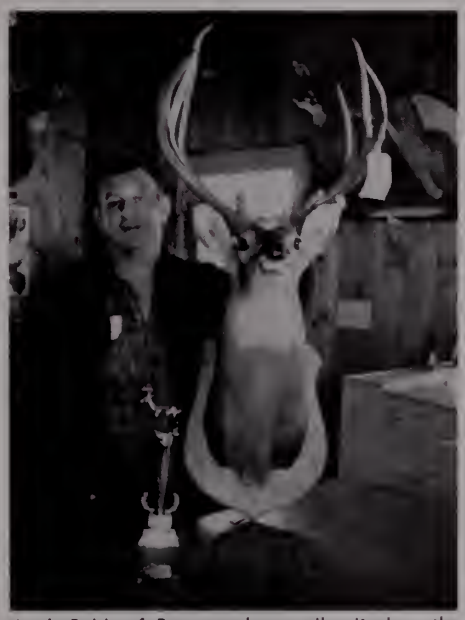
Two excellent pamphlets are available to aid beginning or experienced rockhounds in studying and understanding Virginia's rocks and minerals. "Virginia's Rocks and Minerals," a 60-page booklet published by Virginia Polytechnic Institute, includes an introduction to the study of rocks and minerals, properties of rocks and minerals, common minerals, rocks and gems of Virginia, and scenic rock formations found in the state. It contains numerous photos of actual specimens and a checklist of Virginia rocks and minerals, a county-by-county list of occurrence, and tables giving tests for determining the identity of unknown specimens. It is classified as Engineering Experiment Station Bulletin Series 137, Vol. LIII, No. 3, and is available from the Department of Geology, V.P.I. Blacksburg, Virginia, for one dollar per copy.

The "Identification Guide for Common Minerals and Rocks of Virginia" is a 52-page booklet available for 75 cents per copy from the Virginia Department of Conservation and Economic Development. State Office Building, Richmond, Virginia. As the name implies, the booklet is a complete, illustrated guide for identifying the rock and mineral specimens found in Virginia. Included in the appendix is a fold-out map showing the location of principal mineral deposits in the state.

These two nice walleyes were taken in March on New River below the Claytor Lake dam. Proud anglers with their catches are David Ratcliff, left, with a 6½ pounder and Franklin Turner, right, with a 13 pounder.

Game Wardens Enroll In Conservation Course

Six Virginia game wardens and one information technician have been selected by the Virginia Commission of Game and Inland Fisheries to attend a conservation short course sponsored by the Virginia Resource-Use Education Council. Game Wardens C. R. Chappell of Hillsville, W. T. Jamison of Pembroke, and B. S. Denney of Berryville are scheduled to attend classes at Virginia Polytechnic Institute in Blacksburg June 14-30. Game Wardens H. H. Pittman, Jr., of Regina, C. N. Hunter of Surry, and C. H. Wells of Farmville, and Field Education Coordinator S. O. Newman will attend the course to be held



A. J. Babb of Portsmouth proudly displays the 15-point buck he bagged near Ivor during the last hunting season. Suffolk taxidermist Leonard Williams awarded Babb a trophy for submitting the largest deer rack mounted by him this year and commented that it was the largest he remembered seeing in that area. The animal weighted an estimated 200 pounds and was calculated to be about 4½ years old.

at the College of William and Mary in Williamsburg July 30-August 17.

The courses are designed primarily to give school teachers additional special training in the wise use of Virginia's soils, waters, minerals, forests, wildlife and marine life. They receive 4½ quarter hours or three semester hours credit for successful completion of the three-week course. Scholarships are awarded public school teachers from voluntary contributions received from interested organizations and individuals. Commission employees will attend at Commission expense.

The coveted silver NRA Gun Collectors Committee Trophy was won at the 1962 annual meeting in Washington by the Virginia Arms Collectors Association. Such considerations as how material was presented, described and displayed were used to give the Virginia group the high score. Shown with the exhibit are Bill Bacon (l.), VACA president, and John Gilmer, director, both of Richmond.

Outdoor Recreation Resources Review Commission Report Filed

A long-awaited report on the outdoor recreation wants and needs of the American people and recommendations for meeting them has been filed with the President and Congress by the Outdoor Recreation Resources Review Commission, according to the Wildlife Management Institute. It is titled "Outdoor Recreation for America."

The Commission, known as ORRRC, was created by Congress in 1958 to determine the needs and wants of the people to 1976 and 2000, to inventory available resources of land and water, and to suggest necessary policies and programs. The Commission consisted of a chairman, four Congressmen, four Senators, and six presidential appointees. It was assisted by an advisory council of federal personnel from agencies having responsibility for recreation programs and by 25 others selected for background interest and geographical distribution.

Although considerable land already is available for recreation, ORRRC reports, much of it does not meet current needs because of location and/or restrictive management policies. The far-off places are of little use to most Americans who, by practical necessity, are weekend outdoorsmen.

Federal, State, and local governments are spending about $1 billion annually for outdoor recreation purposes, but much more will be needed. Because recreation often is compatible with other uses of land, ORRRC says, it should be given greater consideration in planning for such things as urban renewal, highway construction, water developments, and forest and range management.

Improved accommodations at water projects is most important, the Commission found. Water is the primary focal point for recreation. Swimming is one of the most popular of all activities, and boating and fishing are among the first ten.

ORRRC also observes that outdoor recreation produces economic benefits in addition to its broad social and individual contributions.

As background for its other recommendations, ORRRC suggests that "It shall be the national policy, through the conservation and wise use of resources, to preserve, develop, and make accessible to all American people such quantity and quality of outdoor recreation as will be necessary and desirable for individual enjoyment and to assure the physical, cultural, and spiritual benefits of outdoor recreation."

To carry out this policy, the federal government is urged to preserve scenic and primitive areas, natural wonders, and historic sites; manage federal lands for broadest possible recreational benefit; cooperate technically and financially with the States; promote interstate agreements; and assume vigorous leadership all along the recreation front. The States likewise are urged to broaden and expand their programs and activities and to cooperate with local governments. Encouragement of the work of private, nonprofit groups is urged at all three levels of government.

ORRRC also recommends a recreation lands classification system to aid in the establishment, development, and management of suitable areas. It encourages expansion, modification, and intensification of programs at all levels of government. It urges the creation of a Bureau of Recreation in the Department of the Interior to assume overall coordinating responsibility for recreation programs of federal agencies and to encourage research and planning. Grants-in-aid to the States also are suggested to assist in land acquisition, planning, and area development.

"Outdoor Recreation for America" should be studied by all groups and individuals, public and private, that are interested in any aspect of meeting and accommodating the mounting demands of the country's outdoor-minded millions. This report is a chart of action. Its implementation will not be automatic. It will need positive action by the Executive Department, resolution of feuds and petty bickering among federal and State agencies, and sympathetic consideration in the Congress.

Copies of "Outdoor Recreation for America" are available from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., at $2.00 each.

Fish & Wildlife Service Photo

Shown above is a federal enforcement agent dressed in the new official uniform of U. S. Fish and Wildlife Service field personnel.

Outdoor Recreation Lands Addition Will Extend Hunting Opportunities, Udall Says

Additions of new outdoor recreational lands as proposed in President Kennedy's conservation message to Congress will assure protection of critical habitat areas and at the same time extend hunting opportunities, Secretary of the Interior Stewart L. Udall said in an address March 9 before the National Wildlife Federation in Denver, Colorado.

Seven of the 12 currently active proposals for new areas are national seashores or lakeshore, and the Department has made it clear that, where hunting has been a significant use of these areas, it will be recognized and continued as a desirable recreation use.

"The coming years will see establishment of a number of national recreation areas—at Federal water development projects—and at other areas where the primary national interest is in intensive public recreation use," he said. "Unless there is a compelling reason to the contrary, hunting will continue to be permitted on national recreation areas."

Drawn while Jay N. "Ding" Darling was seriously ill in 1958, the above cartoon was published after his death on February 12, 1962, at the age of 85. Darling was a famed newspaper cartoonist, conservationist, and first president of the National Wildlife Federation.

Secretary Udall said that he believed that much of the understandable concern of state game administrators about hunting in park areas can be traced to misunderstandings about the acreage which it is proposed to acquire as national parks and monuments.

"Actually," he said, "the National Park Service program for the 1960's prepared for me in developing the Land Conservation Fund proposal calls for the addition of new areas totaling just over 1,300,000 acres. A substantial part of that acreage is for national seashore and national recreation areas in which hunting is far more likely to be permitted than banned.

"When you consider that public hunting opportunities presently available at Point Reyes, Sleeping Bear, and other National Seashores, and at such potential National Recreation Areas as Tocks Island in New Jersey and Pennsylvania, and Between-the-Rivers in Kentucky and Tennessee, will be gradually diminished through posting of private property as pressures mount over the years, I believe it is clear that over the long haul hunting opportunities will actually be *extended* by the total National Park Service acquisition program.

"Nonetheless, the matter has been a subject of controversy long enough, in my opinion; and I am therefore asking a distinguished group of citizens representative of park and wildlife interests and of the general public to study the matter, and to give me recommendations which I hope will provide the basis for a solution acceptable to all concerned. I will announce the membership of this group within the next few weeks."

"In the meantime, I ask—as I have asked before—that both sides in the National Park hunting issue refrain from demanding a far-reaching, rigid decision until the study is completed and all the facts are in. By studying each area individually, I believe we can make reasoned determinations on the uses to be permitted in each area—including hunting—that will yield the greatest returns to the public.

"If we can resolve the wasting controversies that divide us, agree on a philosophy and the broad outlines of a program, . . . we can win the battle for a decent outdoor heritage for our people."

Edited by JIM KERRICK

How To Give Mouth-To-Mouth Resuscitation

Use this method not only on drowning victims, but on persons suffering electric shock, gas poisoning and suffocation. To avoid direct contact place a handkerchief over victim's mouth. This won't impede air flow.

1. Examine victim's mouth for foreign matter. If there is any (mucus, food, sand, tobacco, loose dentures, etc.), turn his head to one side and remove it with your finger or a cloth wrapped around your fingers.

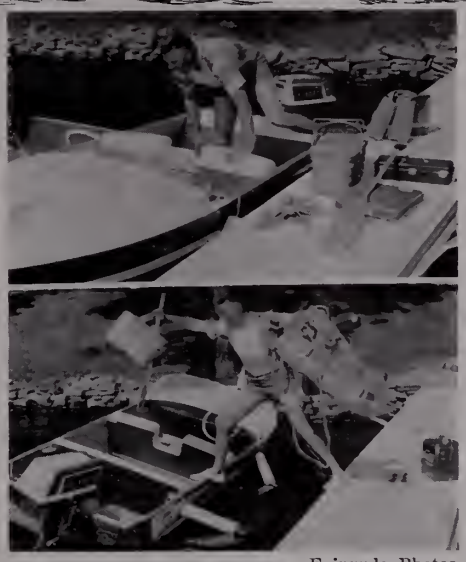
2. Lift the victim's neck, place a folded coat, blanket, etc., under his shoulders. Tilt his head back as far as possible.

3. Grasp the jaw with thumb in one side of the mouth and pull it forward. Maintain this position to keep air passage open.

4. Pinch victim's nostrils shut, take a deep breath and place your mouth over his mouth and your thumb creating a tight seal; or close the victim's mouth, take a deep breath and place your mouth over his nose. Blow into victim's mouth or nose until you see his chest rise. For an infant breathe through both nose and mouth, with thumb in mouth.

5. Remove your mouth and listen for out-flow of air. For an adult, inflate lungs at rate of about 12 times per minute. For a child, inflate lungs up to 20 times per minute, using relatively shallow breaths.

"Yes, I had lots of bites, and every one of them itch!"



Evinrude Photos
How to board a boat safely (above), and how NOT to do so (below).

If first few attempts to inflate the lungs are unsuccessful, turn victim on his side and administer several sharp blows between the shoulders in an attempt to dislodge the obstruction. *Now repeat entire procedure.*

National Safe Boating Week

Following is the text of President Kennedy's boating week proclamation:

WHEREAS many millions of our fellow countrymen are engaged in recreational boating; and

WHEREAS increasing public participation in this healthy, outdoor sport has emphasized the need for greater attention to courtesy and safety to minimize boating incidents of the type which often lead to boating mishaps; and

WHEREAS concerted community action is required to attain the goal of making boating one of the safest family sports; and

WHEREAS, in recognition of the value of maintaining high safety standards on our waterways, the Congress, by a joint resolution approved June 4, 1958 (72 Stat. 179), has requested the President to proclaim annually the week that includes the Fourth of July as National Safe Boating Week:

NOW, THEREFORE, I, JOHN F. KENNEDY, President of the United States of America, do hereby designate the week beginning July 1, 1962, as National Safe Boating Week.

In pursuance of the objectives of this Proclamation, I urge all persons, organizations, and Governmental agencies interested in recreational boating and safety afloat to publicize and observe National Safe Boating Week.

Wardens Attend Boarding School

Virginia Game Wardens S. H. Mitchell, Otis C. Crowther, S. R. Stanford, W. S. Rountree, B. U. Miller, John Wilson Crumb, E. E. Walters, H. H. Pittman, Jr., and James N. Kerrick, Safety Training Officer, attended a three-day school at the United States Coast Guard Headquarters at Norfolk on April 16-18. At the school, sponsored by the Coast Guard, boarding procedures, rules of the road, safety equipment requirements and pleasure boating information were covered. It is felt that a combined effort on the part of the Coast Guard and the Virginia Commission of Game and Inland Fisheries will help to reduce the boating accident rate on Virginia's tidal and inland waters.

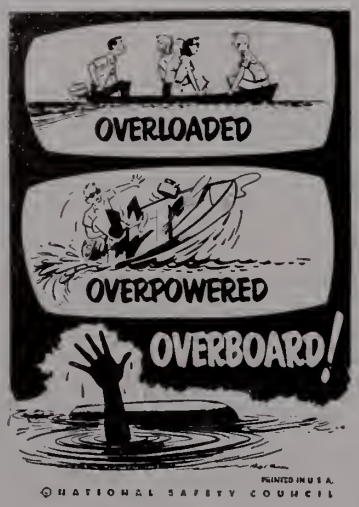
Notice To Boat Owners

Fire Extinguishers—

Boats under 26 feet with outboard motor are not classed as open boats if as much as one third of length is decked over or if they have a closed compartment. Such boats are required to have fire extinguishers.

Anchor Lights—

A vessel under 150 feet in length when at anchor shall carry forward, where it can be seen, but at a height not exceeding 20 feet above the hull, a white light in a lantern so constructed as to show a clear, uniform and unbroken light visible all around the horizon at a distance of at least one mile.



LETTERS

(Continued from page 3)

to state wildlife magazines, collectively spend enormous sums of money on outdoor clothing and equipment and are out-of-doors at all seasons.

A great many of us oppose hunting in the national parks and we also oppose predator control, hotels, motels, marinas, ski lifts, and unnecessary roads in such parks.

Your further assumption that "In areas open to hunting, game herds are more apt to be kept within the carrying capacity of the range and thus remain healthy" appears open to some question in view of the article entitled "Unwanted Deer Hunters" in the same issue. In hunting, as in war, the strongest and healthiest tend to be taken, and hunters may well profit by having healthy animals from culled herds available for transplanting purposes.

Quite aside from violation of the national park principle or any ecological considerations, the hunter is unwelcome in the national parks because, unlike the fisherman, he teaches the animals to fear man. Where hunting is allowed one rarely sees a wild creature even where all signs point to their overabundance. At present the national parks are great outdoor zoos where the animals go about unafraid. Much of their charm lies in this feature.

If hunting is to be permitted in the national parks, I prefer to see no more established.

Mrs. Ray P. Teele
Washington, D. C.

OUR national parks provide students of nature a place to observe nature in its *natural state* every season of the year without worrying about being shot by some careless hunter. America needs natural areas and wilderness —a poor land it would be without them. If given time wildlife will overcome man's effect and balance and adjust to the ecology of its habitat. I believe that you forget that all of your subscribers are not interested in killing wildlife. Many find enjoyment by observing and studying nature. For the preservation of natural areas and its wonders, let us keep our national parks closed to hunting.

Harold Jones
Wytheville, Virginia

More on this subject is to be found in the item entitled "Outdoor Recreation Lands Addition Will Extend Hunting Opportunities" on page 24.—Ed.

Turkey Seasons: For And Against

I WOULD like to criticize some suggestions and recommendations which have recently appeared in VIRGINIA WILDLIFE and add some suggestions of my own. All of the recommendations of the VALC appear fine to me except two. I believe the provision for property owners to recover damages of $50 from trespassers would only be a basis for property owners to better themselves by unfair means. Also I was dubious of the "prohibition against carrying a loaded firearm of any caliber upon the highway or near it." I was glad to read that the bill was killed in the committee.

I am greatly in favor of an early small game season. About the first of October would be the best time. Then the young animals should be on their own. Also, squirrels are most active and the weather and the forests are very beautiful at this time of the year.

In addition to this I believe that antlerless deer (doe) should be made legal game throughout deer hunting season. The surplus doe will probably die off anyway and thus a valuable resource will be lost. If both sexes of deer would be made legal game, then the deer season could be greatly lengthened without conflicting with the bucks' antler shedding. Most other southern states have far longer deer hunting seasons than we do and after reading what some residents in those southern states have said I am convinced of its merits.

In closing I am glad to see that several counties in our state will have a spring gobler season this year. I feel the Commission could go one step further, however, and introduce the spring gobbler season in all counties having fall and winter seasons on turkeys. These counties could have the same regulations as the few counties and Commission-owned and military areas who will have them soon.

B. E. Peterson, Jr.
Palmyra, Virginia

"This is what brings them back every year."

AS a citizen of the state of Virginia since 1903, I would like to offer my suggestions regarding the hunting of that wonderful game, the wild turkey.

Due to the extreme scarcity of these wild fowl, I would favor that the Commission use drastic control to save the wild turkey from extinction. First, the prime reason of the scarcity of the turkey is the deer *hounds*. I beg you to separate deer and turkey hunting if it means shortening or closing turkey hunting. Also, enact a law, once deer season is closed, forbidding deer hunters from taking the deer hounds into the forests and swamps simply for flushing turkeys.

I am strongly in favor of closing the turkey season for a year or whatever is necessary, and then open the season with a bearded gobbler season.

I am sure the Commission will do its best whenever and wherever these laws are needed.

I thank you, the State Game Commission, for this wonderful privilege I have enjoyed in the past. Let's try and keep it here for the generations to come.

A. B. Carpenter
Waverly, Virginia

HERE is something that might interest you. I killed two turkeys last year. The first one, a young hen, did not have anything in its crop. The second one, a young gobbler, had its crop almost full. About half of this was running cedar, which I thought was very odd since I didn't know they ate that. It also included a few soybeans and pods, a dogwood berry and quite a few sumac berries.

Garland O. Clark
Keysville, Virginia

Why Not Stock Bass?

I HAVE been wanting to write you for some years to ask why the Commission of Game and Inland Fisheries does not have a bass program same as a trout stocking program each year. In the April VIRGINIA WILDLIFE it is stated that you are stocking almost half a million trout. This is OK, but I would like to see some pictures of the Commission of Game and Inland Fisheries stocking some large- and smallmouth bass in the best bass streams in the United States—the north and south forks of the Shenandoah River.

We bass fishermen pay licenses the same as the trout fishermen, and we pay our share and more for the trout that are stocked each year. I do not see why the Commission of Game and Inland Fisheries could not stock 100,000 bass a year. I would like for some other bass fishermen to say if they think that I am right.

Lewis Sonner
Strasburg, Virginia

We no longer stock bass for the same reason we no longer stock quail and rabbits; where brood stock exists, natural reproduction fills the habitat up to its carrying capacity for that particular species. Trout fishermen pay extra to cover the expense of our raising and stocking trout in our marginal trout streams. The best thing we can do for warm-water fishermen is to provide them with access to fishing waters, and this we are doing.—Ed.

Suggests Raising Our Own Ducks

DURING the year 1961, our waterfowl season on ducks ran from November 9 to December 19. I understand this was done for the purpose of conserving ducks. I believe in conservation 100 percent. I am not complaining on the short season, but I disagree with the time of the season. When the past season was set, I do not honestly believe the duck hunters were taken into consideration by the State Game Commission. My reason for this is that the sport of boating in Virginia has probably increased 70 to 80 percent in the past 10 years. I enjoy the sport myself. During November and early December when temperatures are mild, the parade of boating enthusiasts is enormous, having no respect for the man in the duck blind; water skiing (in a rubber suit) and running around his blind and through his decoys gives the boater a thrill, although the hunter has paid far more in license fees to the state to hunt than the boaters have paid to boat. Therefore, I think the duck season should be set no earlier than Dec. 1 but should run through Jan. 20.

Being concerned with conservation of our waterfowl, I offer this suggestion to the State Game Commission. If the game commission of each state in the Atlantic flyway were to raise 10,000 ducks annually (mallards, as they raise well in captivity) and release them in

June throughout the state, to help build up our ducks and take hunting pressure off some species, there would be ample ducks for a good season that year.

It is true some of the ducks may migrate north the following spring; this would help the over-all situation. I think it would be a real step toward conservation if the state of Virginia was the first to try this system.

Raymond M. Freeland, Jr.
Colonial Heights, Virginia

Other states, particularly Pennsylvania, are trying your suggestion but thus far returns to the hunter have been low, indicating that this may be a rather expensive solution. A more practical approach to preserving our continental waterfowl, as we see it, is to stop the draining of the ducks' natural breeding areas in the prairie states and provinces which, in the past, has been encouraged through federal subsidy.—Ed.

Questions Use Of Statistics

MR. KERRICK'S article, "Uniform Hunter Casualty Report," in the January 1962 issue of VIRGINIA WILDLIFE points to a very real problem in our Virginia woods. The Hunter Safety Course is needed desperately. But the way those statistics are presented is not up to par with the caliber of articles I have been reading in VIRGINIA WILDLIFE for 10 years or so. As a student in forest management at N. C. State College, I know the usefulness of statistics and also how deceptive they can be. Mr. Kerrick gave us only half of the picture.

To make the statistics on "type of weapon involved" meaningful, a breakdown on the number of hunters using shotguns, rifles, handguns, etc., must be given. Certainly it is reasonable to postulate that if more shotguns than rifles are used, more accidents will occur with shotguns. The data given proves nothing.

The tables on "Hunter Casualties By Age of Shooter," and "Hunter Casualties By Age of Victim" are useless unless the total numbers of hunters in each age group are shown. I am willing to bet that there are more hunters under 19 than there are hunters over 60. Furthermore, the data used to "prove" that teenage hunters are more careless than adult hunters is taken from the wrong table. You can't blame victims for accidents in most cases.

The same principle applies with the table on "Hunting Casualties by Animals Being Hunted." We do not know how many more deer hunters than woodchuck hunters there are.

I live in the West End of Richmond, am 20 years old, hunt deer every time I get the chance, shoot #4 buckshot in both barrels, and I hope you get 100,000 through the safety course. I wish I were in Richmond now to take part in the program.

E. Carlyle Franklin
Raleigh, North Carolina

What Happened To The Sturgeon?

I KNOW absolutely nothing about the reasons for the disappearance of the sturgeon from Virginia's waters, or about the problems involved in attempting to restock them. But I think the problem is an intriguing one—from the standpoint of the commercial fisherman, from that of the gourmet (I think herring roe is mighty good), and perhaps for

"Quick! Where do I apply for a fishing license?"

those who would like to beat the Russians in something besides space (the preservation of sturgeon for caviar).

Peter Henderson
Lynchburg, Virginia

See William H. Massmann's article on page 8.
—Ed.

Knew The Carroll County Allens

I AM from Carroll County, Virginia, and knew the Allens who shot up the Hillsville Courthouse in 1912. I came to New Mexico in 1914 when wolves were plentiful, and it was a thrilling sound to hear them howl at night. Now there are none in New Mexico.

I retired March 31, 1961, after working as a predatory animal hunter for the old Biological Survey and U. S. Fish and Wildlife Service. I understand they now have deer in Carroll County. There were no deer when I was back there.

Lee D. Dalton
Lindrith, New Mexico

"One License, One Line In Water"

I AM not a selfish man and am fully cognizant of the fact that Virginia's fishing streams, ponds, and swamps are for all to enjoy. Nothing is more pleasant to the ardent fisherman than to sit on the bank of his favorite stream, or hole, and enjoy the thrill that comes with hanging a large bass or big pike.

He pays for that privilege via the purchase of a fishing license which entitles him to visit and fish in the many ponds and streams found so abundantly in the state of Virginia.

I am one who enjoys that privilege. Many is the morning that finds me, before sun-up, patiently awaiting a strike by one of the denizens of the deep. But, lo and behold, it isn't long before others begin to arrive and

this is where the trouble begins, or at least where I begin to complain and thus the reason for this letter.

As an example . . . the area in which I am fishing is ideal for one, two, or three persons. On this particular occasion, of which I write, a man and his son began fishing. All boys certainly have the right to learn how to fish . . . their fathers, too. In approximately 30 minutes, these two had seven lines set out, and, inasmuch as the fish were biting, it wasn't long until general confusion reigned and I was hopelessly entangled in one of the unattended lines which a fish had grabbed and started off with.

This isn't the only occurence of its nature, for many is the time that I, and many others with whom I have talked, have found literally dozens of unattended lines scattered up and down a bank or along a shore.

Maybe I am a poor fisherman, but I'll be darned if I can tend to more than one line at a time. I have my hands full tending to the one line I have in the water and certainly cannot catch fish on two or more lines at the same time without seriously hampering and inconveniencing others in the immediate area. I may get a lot of argument here, but no one can tell me that he can catch fish on two lines at the same time without bothering others around him. When a fisherman sees his float disappear, his lesser sense rules and he will rush headlong toward the disappearing float often completely oblivious of all else.

I contend that a man pays for only *one license* to fish and that one license should only entitle him to one line in the water at a time.

I, for one, sincerely advocate that some thought and due consideration be given this problem. I would like to see legislation passed that would eliminate this unfair and, in my opinion, unsportsmanlike action. I am confident that many other fishermen would favor such action on the part of the Virginia Commission of Game and Inland Fisheries.

Jack M. Matthews
Richmond, Virginia

Present regulations state that fishing in inland waters must be by angling with a hook and line or rod and reel, held in the hand. However, trot lines or set poles may be used statewide, using any bait except dead or live minnows, for the purpose of taking non-game fish and turtles, except in waters stocked with trout and in the Shenandoah river and its tributaries.—Ed.

Kudos

FIRST, I want to congratulate you and your staff on publishing a very worthwhile and interesting magazine—VIRGINIA WILDLIFE. I have been a subscriber for many years and greatly appreciate the service you perform.

In the March 1962 issue, Dorothy E. Allen had an article on page 17 on "Fish Habitat." As an erstwhile fisherman and occasional author, I found her article especially good.

Fred L. Faber
Alexandria, Virginia

WE enjoy your fine magazine and look forward to it each month. The beautiful covers alone are worth much more than the small subscription price.

Mrs. Paul Hansen
Richmond, Virginia

the *Bluegill,* Prince of Panfish

The bluegill often is his own worst enemy. Overpopulation makes food scarce and stunted fish result.

Bluegill Lures

A delight to the fly-fisherman and canepole angler alike, the bluegill is a fine game fish

Surface lures are usually productive during the warmer months by fishing in early morning or late evening. Much of the bluegill's feeding is done in deep water, however.

Spawning takes place in May or June when the water temperature reaches 75 . Some spawning may continue through much of the summer.